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A Survey
OF
The Marketing of Fruit in Poona.

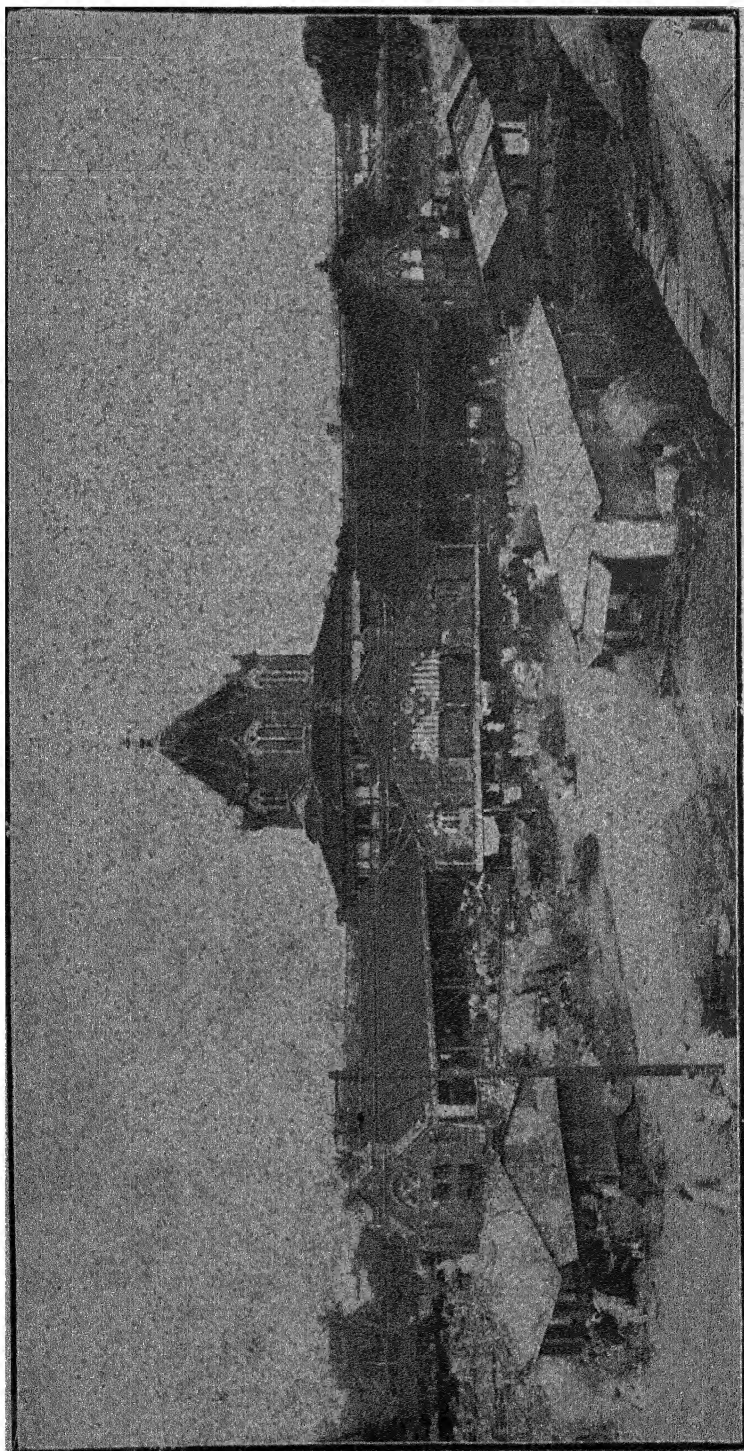
BY
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Institute of Politics and Economics, Poona 4.

REAY MARKET BUILDING (North-eastern view.)



Showing three segments of the market building and the two uncovered portions between them.
(Also the parking ground for vehicles in front, and booths for retailing non-perishable articles towards the right and left.)

PREFACE.

This is the first publication of the Gokhale Institute of Politics and Economics embodying the results of a detailed field investigation carried out by the Institute. The value of economic surveys of this type has been emphasised a number of times in recent years; and the possibilities and the limitations of the method, as we have experienced them are made clear in the following pages. Because this was our first survey, and because such surveys have been somewhat uncommon in India, we have recounted the results of the investigation in considerable detail. We have tried to deal with all aspects of the question, whether the information available was full or not. We expect to indicate, in this way, the degrees in which our investigation has been successful in the different directions.

There is one important direction, however, regarding which little will be found in what follows. This is the question of marketing finance. This is chiefly because the financing of the marketing of fruit, so far as the grower is concerned, is not in any special category by itself. There are very few orchard owners for whom fruit growing is the only or the chief occupation, and the question of growers' finance is bound up with the question of the general agricultural economy of the tract. We did not feel justified in straying so far from our subject, especially, in so far as the problems connected with rural finance have received considerable attention from other quarters, in recent years.

We have to thank a great many persons and bodies for help in our work. Foremost our thanks are due to R. B., P. C. Patil, R. B., D. L. Sahasrabuddhe and Prin. V. G. Gokhale, all of the College of Agriculture, Poona, who consented to form themselves into an advisory committee for guiding us in the planning and conduct of the survey. In the field investigation, workers connected with the co-operative movement in the district were of the greatest help to us. Officers of the Poona Central Co-opera-

tive Bank and the District Co-operative Institute were always willing to lend their assistance in any way they could, to the investigation. In introducing our investigator to the growers and in obtaining sales accounts from them, the agency which proved invaluable was that of the supervisors of the co-operative supervising unions in the district. The most prominent among the supervisors who helped and to whom our special thanks are due were, Mr. S. D. Joshi of the Purandhar taluka supervising union, Mr. M. T. Wingle of the Haveli union and Ingle of the Kedgaon union. Mr. M. B. Mokashi, agent of the Khed Branch of the P. C. C. Bank was also extremely helpful in the same way. It was our experience that information from growers etc. was most readily obtained wherever co-operative credit societies were in existence, and the chairmen and secretaries of these societies were able materially to help the investigator. Among growers and buyers in the district, we would like specially to mention the following among those who replied to our questionnaire and helped the investigator in other ways. Messrs. Pingles of Talegaon Dhamdhere, Mr. Karanje Patil of Shikrapur, Messrs. Kunjir and Kad of Waghapur, Mr. Rajurikar of Rajuri, Mr. Raskar of Khalad, Mr. Jagtap of Saswad, Messrs. Doke and Shete of Ale, Mr. Ghatpande of Belhe, Mr. Karwade of Chakan, Mr. K. B. Bhagwat, B. Ag. of Loni Kalbhor, Mr. P. N. Bhide, M., Ag., of Vadgaon, Messrs. Sutar and Walimbe of Pimple, Mr. Dalvi, a director of the P. C. C. Bank of Nanded and Mr. Mane of the same place, Mr. Barate of Warje and Mr. Bhawe of Khed-Shivapur, Prof. V. B. Naik, Dr. V. D. Phatak and Mr. N. V. Limaye of Poona have also given some valuable information arising out of their experiences in fruit growing and marketing. Mr. Keshavlal Balaram, a prominent forwarding agent, is a mine of information regarding all matters connected with fruit marketing, especially the movement of fruit and vegetables in this district. We had recourse to him a great many times during the course of the enquiry and the writing of the report, and we always found him extremely obliging. Mr. Mainkar, another forwarding agent also gave us valuable information. Mr. Parandekar filled in many gaps in our information regard-

ing the business of commission salesmen and wholesalers at Poona. Mr. J. G. Gadgil supplied us with detailed information regarding commission salesmen's charges at the Sholapur market. Mr. Bahirat, secretary of the Crawford Market Fruit and Vegetables Merchants Association and contractor of the Crawford Market auction-floor and Mr. Sawant, stall-holder and commission salesman, were chiefly helpful in supplying information about the Bombay marketing organisation. Mr. Lalchand Hirachand, secretary of the Fruit Growers Association showed a keen interest in our investigation from its start.

The Horticulturist to the Government of Bombay, Dr. G. S. Cheema, the district horticulturist Mr. Paranjpe and the horticultural assistant Mr. Bhat were all found willing to assist whenever approached. The Chief Officer of the Poona Municipality, the Market Inspector and the Octroi Superintendent made available to us every information that we required regarding the municipal markets and the octroi records and receipts. The Collector of the Poona District was kind enough to ask the taluka and peta officers to supply us with acreage statistics. The Divisional Traffic Managers of the Poona and Bombay Divisions gave us facilities to watch the booking of parcels and allowed us to extract certain information from some of their office records. To these and to many others, whose names we have not mentioned for want of space above, we give our most heartfelt thanks.

1-11-33.
 Servants of India
 Society's Home,
 Poona, 4.

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D. R. GADGIL.
 V. R. GADGIL.

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CHAPTER I

Introduction.

It is not necessary today to emphasise the importance of marketing research. This has been increasingly recognised during, especially, the last two decades in all countries of the world. The subject was, however, strangely neglected in India. The Royal Commission on Agriculture in India drew pointed attention to this neglect and laid great stress on the need for undertaking systematic market surveys. The Commission writes in this connection, "We have sought to make plain the extent to which the prosperity of the cultivator and his progress in agricultural efficiency depend upon sound marketing. It has been pointed that comparatively little has been done by Government in India to assist the cultivator in his marketing operations. The collection and study of exact information on the question must necessarily precede the formulation of an effective policy for the improvement of marketing. Guesses and heresay cannot provide the grounds for action, and, at present the departments of agriculture are without much of the material essential for a forward move"¹ The commission recommended that detailed market surveys should be undertaken by departments of agriculture and by such bodies as the Indian Central Cotton Committee, the Board of Economic Enquiry in the Punjab etc. Thus when the Gokhale Institute decided to undertake investigations into concrete economic problems whose results would prove to be of some immediate value, a marketing investigation was suggested to us as one of the most obvious lines of enquiry. In marketing research it has been held as axiomatic that the whole field has to be surveyed on a commodity basis and Poona being an extremely important centre of fruit and vegetable supply in Western India the marketing of fruit and vegetables in Poona was readily undertaken by us as the first subject of an economic investigation by the Institute. It was soon found, however, that the combined problem of fruits and vegetables would be too large for one investigator to tackle and the investigation was at an early stage narrowed down to

* Report of the Royal Commission on Agriculture in India (1928) p. 408.

that of the marketing of fruit alone. The object of our enquiry was thus the study of present methods and costs of the sale and distribution of fruit grown in the Poona District with special reference to the Poona City Market. Our attention was directed specially to marketing machinery and the various stages through which fruit passed from the moment it left the orchard or the hands of the producer to the moment it reached the consumer. But we have tried as far as possible to cover in some measure all the various sides of a market survey as enumerated by the Agricultural Commission in paragraph 347 of their report.

With regard to this problem of the marketing of fruit in India there has been available hitherto very scanty information. The earliest enquiry of this type, so far as we know, was that conducted by the Committee on Mango Marketing appointed by the Government of Bombay in 1924. The Horticulturist to the Government of Bombay, Dr. G. S. Cheema, has also been interested in these problems and has last year published a small pamphlet, called: "The marketing of Fruits and Vegetables in Bombay." This however, does not unfortunately publish in detail the results of the investigation into facts on which obviously the recommendations made in the pamphlet are based. Since our investigation was undertaken, two articles appeared in the Journal, 'Agriculture and Live-stock in India' on the marketing of oranges in the Punjab¹ and in Nagpur.² This, so far as we are aware, is the extent of the published studies of the marketing of fruit in India. The literature produced in the other countries has, however, been enormous. Following the publication of the reports of the Linlithgow Committee the numerous detailed publications of the English Ministry of Agriculture and Fisheries have exhaustively treated this problem. The Imperial Economic Committee and the Empire Marketing Board have also given considerable attention to it. Departments of Agriculture and Colleges of Agriculture in U. S. A. have long been pioneers in marketing research, especially in fruit, and considerable information in this regard is also available from the Dominions and other parts of the British Empire.³

¹ "A study of Orange Marketing in England with special reference to the possibilities of marketing Punjab Oranges" By K. C. Naik (March 1932).

² "The marketing of Nagpur Oranges"—By P. D. Nair (Nov., 1932).

³ Vide Select Bibliography at the end.

The present investigation was started in July 1931 and was from the outset conducted by Mr. V. R. Gadgil. The collection of the data occupied the period of over a year and the collection of the material and the writing of the report etc. have taken well nigh the larger portion of another year. Wherever during the process of working up the material any gaps in the information previously collected were observed, efforts were made so far as possible to fill them up. We had believed that it would be particularly valuable if we could obtain a connected series of price statistics, both wholesale and retail, through the period of one complete year. In order to obtain this data Mr. V. R. Gadgil attended the Reay Market Poona, for a number of days every week and tried to collect the prices of various fruits. The results of the data thus obtained have been presented in tabular form elsewhere. A variety of reasons explained there have not made these statistics as valuable as we had thought they would be; they are however, so far as they go, entirely reliable having been collected by personal observation of actual transactions. Price statistics were also obtained from other sources, notably through the courtesy of Mr. Divadkar whose wholesale purchases for the purposes of the railway stalls are throughout the year considerable. We found it, however, impossible to utilise any of this material as there was no indication given (and no indication could possibly be given) of the changes in the quality of the fruit bought. This was obviously because of the total absence of any standardisation of the grades of fruit in our markets. The same remark applies to the statistics of wholesale prices to be found incidentally in the sales accounts of the commission salesmen.¹ The main bulk of the information regarding market-mechanism was obtained as the result of the personal observa-

1 On a representation made by us, the Poona City Municipality has begun since May 1932 to publish every Friday the prices of fruit and vegetables ruling at the Reay Market. To meet the grading difficulty partially we had suggested that these prices be published as for three grades of each commodity. The suggestion was accepted and the prices are now so published. But even so in the absence concrete dealings in definitely graded produce in the market, it is difficult to attach considerable value to prices as for the various grades as recorded by the Market Inspector's staff. The Municipality had originally also accepted our suggestion to publish prices both wholesale and retail but on account of the refusal of the commission salesmen to supply wholesale prices the publication has now been restricted to retail prices alone.

tions and enquiries of the investigator at the Reay Market, Poona, and at the Crawford Market, Bombay. It is to be noted in this connection that the large majority of commission salesmen in Poona exhibited throughout an attitude of suspicion if not of hostility to our enquiries. This made the task of obtaining information in respect of their transactions much more difficult than it would otherwise have been. The stall-holders as a body also would supply little direct information. Such information as the volume of their daily purchases, the rapidity of the turnover, loss due to wastage etc. were not to be had from them. Under the circumstances it is impossible to say anything about the costs of retailing. A few samples of concrete transactions were, however, obtained from some hawkers in Poona. The class of growers on the other hand was very sympathetic towards our enquiry and very detailed and exhaustive information was obtained from them. We were also fortunate in interesting some important merchants connected with the trade in our enquiry and obtaining valuable information from them.

The method by which the bulk of the information from the growers was obtained was the questionnaire method. A detailed questionnaire specially meant for the growers was prepared (of course in Marathi) at the beginning of the enquiry and a large number of copies of it were printed. The questionnaire was divided into seven sections and contained nearly a hundred questions. The questionnaire included questions bearing on problems directly or indirectly connected with the marketing of fruit. It covered the fields of production and yield of fruit, grading and packing, dealings with "Khotidars" or pre-harvest contractors, seasonality in fruit production, transportation, dealings with commission salesmen and other intermediaries etc. In the first instance a large number of copies of this questionnaire were sent out to prominent growers and merchants, but it was found that almost none of these were filled and returned to us. And the one or two questionnaires that were returned contained answers that were not at all informative. It was, therefore, decided that information should be collected on the basis of the questionnaire from all sources by the investigator in person. The questionnaire was useful as making the collection of information personally, more definitely grounded and in helping tabulation of the information at a later stage. But it was not useful

in the sense of its making available to us informaion from a variety of sources without the personal exertions of the investigator. The method of filling up the questionnaires by personal visits though laborious and wasteful of time proved very successful and proved in a sense better in the end, as it facilitated the ensuring of accuracy by detailed cross examination on the spot and gave an opportunity to the investigator of coming into close contact with a large number of fruit growers and with the conditions under which fruit was produced. The investigator visited in all twenty of the most important fruit growing villages in the District and some fifty questionnaires were filled up by information supplied by the class of growers in these villages. In effect, however, these questionnaires represent information gathered from a very much large number of persons than the number represented by the questionnaires. Because though in each case the questionnaire stands in the name of a single individual, information in the villages was obtained by interviews not with single individuals but with a group of growers. This group numbered usually from anything between three to ten persons. And thus though the information was recorded as proceeding from the most prominent member of the group and the concrete details regarding the size of the holding etc. referred to him, all the other information was noted down as it emerged as the result of the discussion in the group. It was no wonder, therefore, that in a number of cases it took several hours to fill up a single questionnaire. This being the method of obtaining information it was felt unnecessary to fill a large number of questionnaires from any one village. Next to growers a few of the pre-harvest contractors also responded liberally to appeals for information made to them and certain merchants and forwarding agents at Poona and carting agents at Bombay also helped us materially.

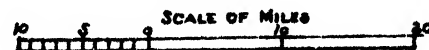
With regard to marketing costs our main-stay has been the sales accounts sent by commission salesmen which have been furnished to us by a number of prominent growers. Representing as these do the contemporary record of actual transactions, they form an invaluable material for our study. A number of growers are in the habit of carefully preserving these sales accounts and it is entirely due to their kindness in letting us have this material that we are able to present concrete tables about marketing costs at certain stages. In all we obtained nearly a thousand of these

sales accounts from various sources; and we have presented a detailed analysis of most of this material in one of the chapters that follow.

Other sources of important statistical information were those furnished by the records of the octroi offices of the Poona Municipality and the village acreage statistics maintained by the revenue authorities. We were able freely to draw on these records and have made as large a use as possible of them. Through the courtesy of the local divisional Traffic Superintendent our investigator was enabled to watch for a few random days the booking of fruit parcels and take down particulars regarding such bookings at Poona Station and at a few other stations within the district on the G. I. P. Railway. But our applications for obtaining access to statistical data maintained at the headoffices of the G. I. P. and M. S. M. Railways regarding movements of produce were not favourably considered. In one important direction, therefore, the data presented by us have had necessarily to remain incomplete.

FRUITS फळें

POONA COLLECTORATE पुणे जिल्हा.

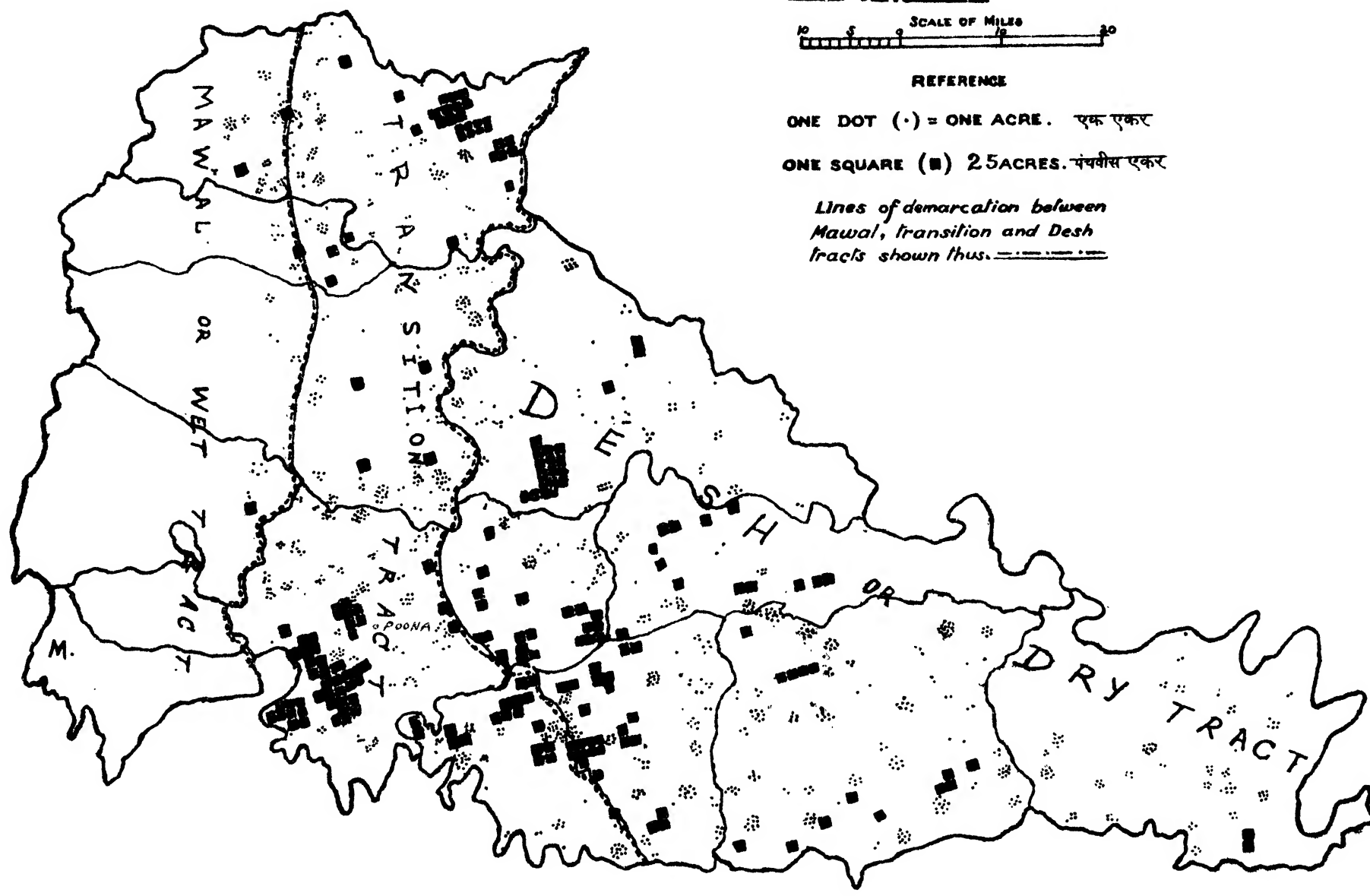


REFERENCE

ONE DOT (•) = ONE ACRE. एक एकर

ONE SQUARE (■) 25 ACRES. पंचवीस एकर

*Lines of demarcation between
Mawal, transition and Desh
tracts shown thus. — · — · — · —*



CHAPTER II

Production and Supply of Fruit.

The district of Poona is on account of a variety of reasons, one of the most considerable producers of fruit in Western India. In some portions of the district the fruit crop is one of the most important money crops available to the cultivator and as the district is in many ways handicapped by the poor quality of its soil etc. fruit growing promises, if properly developed, to become even more important in the near future.

(i) *Fruit Acreage*.—It is unfortunate that the statistics of acreage, available in the annual crop returns, do not distinguish between fruits and vegetables. We do not thus possess reliable and continuous figures regarding the area under fruit in the different districts. The data is, however, available in the village and taluka records and it was possible for us with the permission and help of the taluka officers to compile detailed figures regarding the acreage under the different varieties of fruit in the various talukas and petas of the Poona District. These figures are recorded per village and the taluka and peta figures in the subjoined table were prepared in the Institute's office from information obtained from taluka offices.

TABLE I.
Acreage under fruit per taluka.
Distribution of fruits in the Poona District in the Year 1930-31.

	Name of the Taluka or Peta	Oranges				Bananas	Pomegranates	Guavas	Figs	Lemons	Papayas	Mangoes	Grapes	Custard Apples	Chikus	Others	Total
		Santras	Mosambis	Santras & Mosambis combined	Total												
1	Junnar	...	...	152	152	772	4	26	...	26	16	...	9	...	3	2	1010
2	Khed	174	19	...	193	32	...	6	...	13	17	...	6	...	...	...	267
3	Ambegaon	...	...	61	61	44	...	2	...	3	...	...	...	2	...	...	112
4	Mawal	8	2	...	10	3	...	5	...	4	5	4	...	...	1	...	32
5	Mulshi	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
6	Haveli	82	344	...	426	347	347	546	74	45	55	47	...	9	...	...	1896
7	Poona City*	1	28	...	29	14	4	145	3	2	7	50	...	3	...	...	257
8	Sirur	545	26	...	571	16	...	...	...	4	22	19	...	...	5	...	637
9	Dhond	110	20	...	130	5	176	9	6	58	5	2	...	...	...	...	391
10	Purandhar	196	261	...	457	104	146	11	511	19	8	5	2	...	...	...	1263
11	Bhimthadi	127	55	...	182	147	118	21	2	77	22	3	18	...	...	...	590
12	Indapur	41	...	...	41	72	13	33	1	20	...	...	2	...	...	...	182
	Total ...	1284	755	213	2252	1556	808	804	597	268	160	130	37	14	9	2	6637

* In the case of Poona City Taluka the figures obtained have been those of trees and we have converted them into acreage figures.

It is not possible to say to what extent these figures are reliable. The crop acreage in each village is supposed to be annually recorded by the village accountant and presumably, therefore, the village record has a high degree of accuracy. It may, however, be noted that in certain cases our investigator during his tour found some marked discrepancies in fruit acreage as given in these records and in the fruit acreage actually existing at the time of his visit according to the information of the principal growers.

The figures of acreage under mangoes¹ in this table are hardly reliable. This is obvious from the fact that from five talukas no acreage under mangoes is returned; and even where there is a return it is an obvious underestimate. There are too many difficulties in the way of giving any acreage figures for mangoes as the trees in these parts are generally planted widely scattered over a large area and compact and large mango groves are comparatively rare. Any way as the mango does not play a very important part in the orchard gardening of the Poona District it is not necessary to enter into any further details of this subject.² The same remarks are applicable to custard apples³ which are in the large majority of cases not regularly planted and are mostly mere wayside trees.

A prominent feature of the above table is the large variety of fruit that is shown as grown fairly widely in the Poona District. In the absence of any general fruit acreage statistics for the other districts of the Presidency or for other parts of India, it is difficult to compare in detail the Poona District with other fruit growing areas. For the Presidency the latest available statistics of fruit acreage in all the districts of the Presidency are for the year 1922-23 published in the Statistical Atlas of the Bombay Presidency (1925). According to these figures Poona District had then an acreage under fruit of acres 6,973 which was higher by far than that of any other district in the Presidency. However, in spite of the fact that the Atlas is a carefully prepared official publication, it is difficult to accept this figure as correct. The Atlas contains no details of acreage under individual fruits, but gives the statistics for each

1 *Mangifera Indica*, (Linn.).

2 Cf. remarks on this point in the Bombay Presidency Statistical Atlas (1925).

3 *Anona squamosa* (Linn.).

GUAVAS पेठ

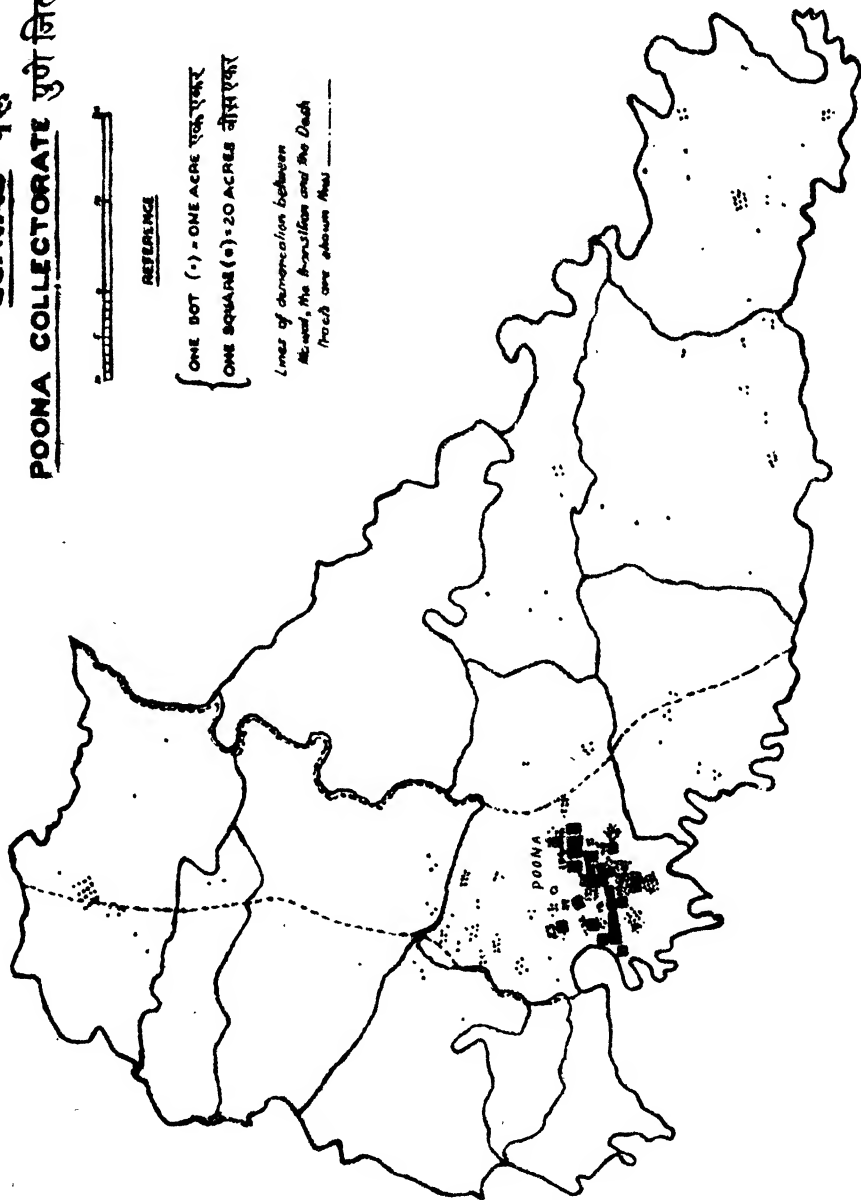
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REFERENCE

{ ONE DOT (•) = ONE ACRE एक एकर
ONE SQUARE (■) = 20 ACRES बीस एकर

*Lines of demarcation between
Muzet, the Amalgaon and the Dugh
Forest are shown thus: - - - - -*



taluka. Now the Atlas gives the 1922-23 acreage for the Haveli and Junnar talukas as 1,328 and 2,183 (p. 101) respectively. The discrepancy as between these figures and those quoted by us in table No. 1 is too great to be explained away. Further, the Junnar Taluka grows only one fruit—bananas¹—widely. Prof. Patil's bulletin² gives the acreage under bananas for the year 1917-18 in the whole of the district as 1,029. It is thus not possible for the total fruit acreage in Junnar Taluka to have been at that date much larger than 1,000 acres. This figure is at great variance with the figure for the taluka for the year 1922-23 given in the Atlas which is acres 2,183. We cannot, for this and other similar reasons accept the Atlas figures, in which some clerical errors have obviously crept in. The latest statistics then left available are those contained in the table given by Prof. P. C. Patil in his bulletin. From these it would appear that Poona stood in the year 1917-18, second in fruit acreage in all the districts of the Presidency. Kanara with its enormous area under bananas stood first. The more important figures of total acreage in the various districts may be quoted. They are:—

		Acres.
Kanara.	...	6,412
Poona.	...	4,825
Thana.	...	5,652
Dharwar.	...	2,797
E. Khandesh.	...	2,762
Ahmednagar.	...	2,720

The claim of Poona, therefore, to be considered as one of the most important fruit areas in the Presidency is undoubted. Figures from other provinces are not available and it could not be stated how far Poona is an important fruit growing area as compared with other Indian tracts. Two significant figures may, however, be cited. In 1927 the total acreage under fruit in the N. W. Frontier Provinces was estimated at 12,000 acres³ and in the highly specialised fruit area of Nagpur District, the acreage under oranges during the year 1931 is said to have been 5,559.25 acres.⁴

1 *Musa Sapientum* (Linn.).

2 Bombay Department of Agriculture. Bulletin No. 109. The crops of the Bombay Presidency. 1921. p. 45.

3 Agri. Commission. Evidence, Vol. IX, p. 20

4 Nair:—Marketing of Nagpur Oranges. Agriculture and Livestock in India, Nov. 1932.

It is most likely that the comparative position of the various districts has not changed materially during the last 15 years and that Poona in respect of its area and variety continues to hold the same comparative position as it then held.

We would now draw attention to the taluka and fruit details of table No. 1 and describe the more important centres of fruit production in the district. The most important fruit centre is the Haveli Taluka together with the Poona City Taluka. Next follow Purandhar, Junnar, Shirur and Bhimthadi. The remaining talukas are of no considerable importance. In the case of Junnar the large bulk of the fruit acreage is under bananas and in Shirur oranges predominate; while Haveli, Purandhar and Bhimthadi show large variety in the fruits grown within their limits. Dealing with individual fruits it will be observed that figs¹ are largely confined to Purandhar and guavas² to Haveli and almost half the total acreage under bananas is to be found in Junnar Taluka. On the other hand orange cultivation is widely spread throughout the important fruit growing talukas and the same is the case in some measure with pomegranates³ and lemons.⁴

Going into somewhat greater details we would invite attention to the maps prepared by us on the basis of the individual village statistics and the concentration of fruit growing in general and the specialisation in single fruits that they show. The map showing the distribution of general fruit acreage throughout the district exhibits a large concentration of fruit growing within and just beyond what is termed as the 'transition tract' and which has been indicated in the map in accordance with the map in the Statistical Atlas of 1886. The Mawal tract on the west of the district—of hilly country with very heavy rainfall—has almost no area under fruit. In the same way the dry and scanty rainfall tract towards the east has little fruit acreage except the orange groves in Shirur taluka and the new fruit cultivation under the Nira canal system in Bhimthadi and Indapur. The maps regarding individual fruits bring out well the concentration in the important fruit growing areas. Under the term oranges have been included

1 *Ficus Carica*, (Linn.).

2 *Psidum Guyava* (Linn.).

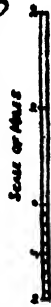
3 *Punica Granatum* (Linn.).

4 *Citrus medica* (Linn.), Var.—*Limonum*.

ORANGES. (SANTRAS & MOSUMREES)

नारिंगे (संत्रे व मोसंबी)

POONA COLLECTORATE पुणे जिल्हा

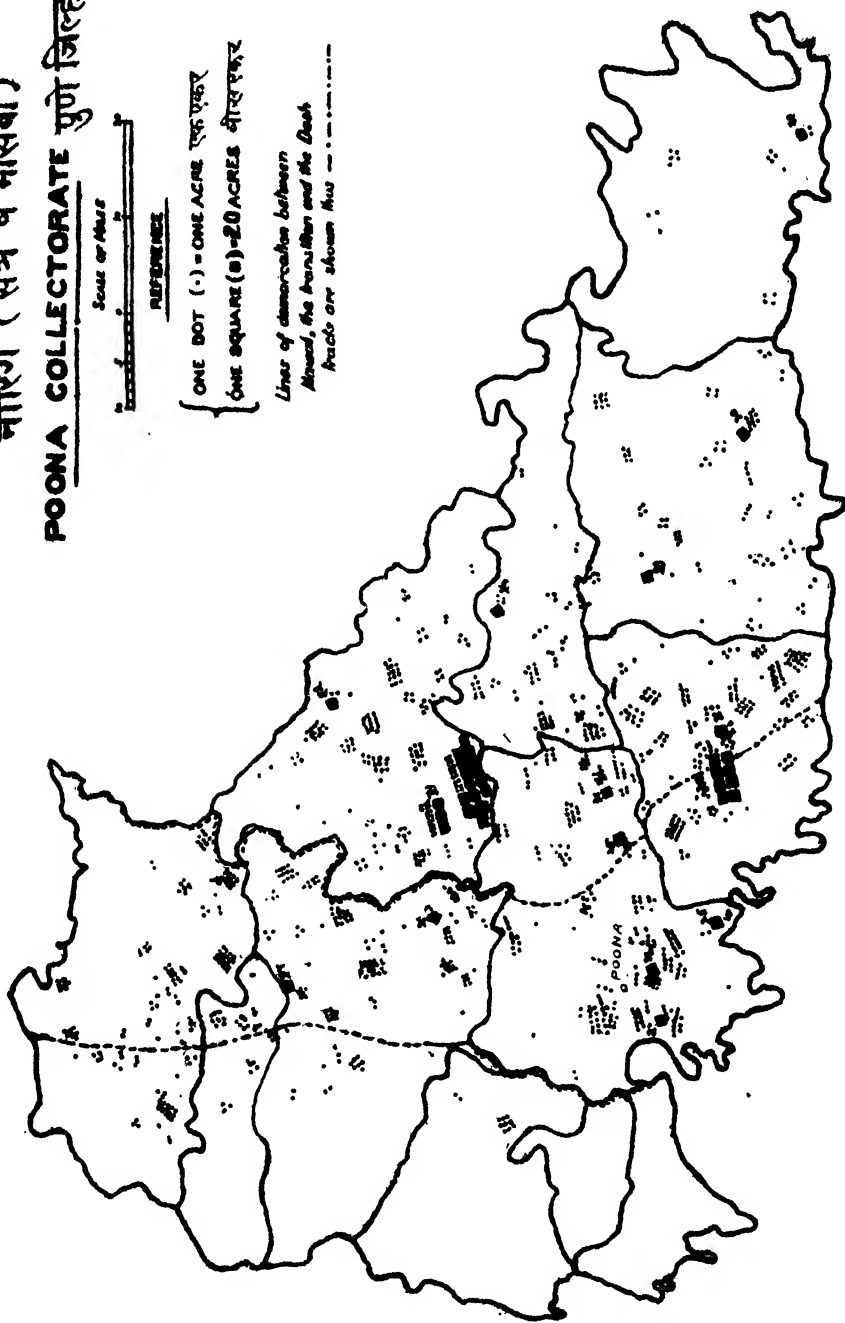


Scale of Miles

REFERENCE

{ ONE DOT (•) = ONE ACRE एक एकर
ONE SQUARE (■) = 20 ACRES बीस एकर

Lines of demarcation between
Mandal, the Panshikar and the Dakh
tracts are shown thus - - - - -



two types namely (i) Santras and (ii) Mosambis.¹ Unfortunately it was not possible to get the statistics of acreage for these fruits separately for the Junnar taluka and for Ambegaon peta. Hence separate maps for santras and mosambis could not be prepared. On the other hand, for all the other subdivisions separate statistics are available and they show the more important centres of the production of these fruits to be as follows:—Santras are very largely cultivated in two adjacent villages in Shirur Taluka, Talegaon-Dhamdhere and Shikrapur. These two villages contain almost a third of the total acreage under santras in the whole district. Otherwise there is no marked concentration of their cultivation elsewhere. Barring

1 **Oranges.** (*Santra and Mosambi*):—‘Santra’ and ‘Mosambi’ are two types of oranges grown commercially in the Poona district. Both the types belong to the species ‘*Citrus Aurantium* (Linn)’ according to Cooke, as well as Hooker. The ‘Santra’ is a loose skinned type. The fruit may be described thus:—Form oblate; colour very deep orange red; glossy; size medium to large, 3 to 4 inches in diameter; shape somewhat flat, but nipped at the stem end; apex depressed, color bright orange; skin rough, somewhat wrinkled next the stem, very loose and separated easily from the flesh; segments separating readily; core almost none, representing a cavity. Varying in size; pulp and juice of a pale orange colour, sweet or subacid but piquant flavour; quality good.” From the above description the santra will be found to resemble the Mandarin (Var. Tangerine) orange which is grown commercially to some extent in California, and the Satsuma (Unshiu) orange of Japan. (Vide Pp. 78 and 79 of “Citruits Fruits” by J. E. Coit.)

The ‘Mosambi’ is another type of orange grown commercially in the Poona district. This differs from the Santra in many respects. The first distinguishing characteristic is the tight skin which adheres closely to the pulp inside. It is very difficult to separate the carpels from one another. (In fact, while the Santra does not require the help of the knife, one cannot do without a it in the case of the Mosambi.) Besides, the shape of the Mosambi is generally either oval or round, the Santra is rather flat. The colour of the Mosambi is generally lemon-yellow, but it may develop into deep orange towards its advanced stages of maturity. It may further be described as follows:—Size medium to large, 3 or 4 inches in diameter; no nipple towards the stem-end as in the case of Santra; no depression at the apex; skin smooth; core considerable; colour of juice of a slightly pale yellow tinge; flavour sweet or deliciously subacid. The name ‘Mosambi’ is supposed to suggest its origin from the Mozambique. This type seems to resemble the Valencia orange of California in the following respects, as per description given by Coit: “Form oblong, somewhat flattened, with depressed ring at apex, tapering towards base; size medium; color pale orange, deepening with maturity; skin smooth or slightly pebbled, thin, but tough; juice plentiful, flavour subacid; seeds variable in number.”

Seeds are present in both the types.

the two villages already mentioned, at no place is the acreage under santras larger than 30 acres, and there are only 5 villages with an acreage between 20 and 30. There are twentyone villages which have an acreage between 10 and 20. These villages are fairly widely dispersed in the talukas of Purandhar, Shirur, Khed and Bhimthadi and the Dhond Peta. In the case of mosambis the heaviest concentration is in the Khalad-Walunj area in Purandhar, the two villages accounting for 181 acres out of a total of 755. For the rest the acreage is scattered without any marked concentration among various villages chiefly in the Haveli, Purandhar and Junnar talukas.

Concentration under bananas is more marked than in any other fruit except guava. There are two centres of concentration. The more important of these two is in the Junnar Taluka, in the three contiguous villages of Ale, Rajuri and Belhe. The other centre is on the outskirts of Poona City in such villages as Banere, Pashan, Vadgaon and Hingne. It should be noticed, however, that the banana acreage in this second area is of a highly fluctuating character and that a lot of the cultivation is for the sake of leaves for which there is a considerable market in the Poona City. The acreage in the first group is a good deal larger than one-third of the total and that in the second somewhat more than a sixth. The remaining acreage is scattered in other parts of Junnar and Haveli and also in Purandhar and Bhimthadi. The most important of these minor centres is Walhe in Purandhar Taluka.

The highest concentration in pomegranates is in the two neighbouring villages of Alandi (Chorachi) and Vadki in Haveli Taluka, the two together accounting for 179 acres. The rest is spread in the eastern portions of Haveli and Purandhar and in Dhond Peta and Bhimthadi Taluka. The production of guavas in the Poona District is almost entirely confined to the villages to the south-west of Poona City on the Mutha right and left bank canals. In this tract there are three villages having more than 100 acres under guavas and there are six villages with acreages between 15 and 100. These nine together account for 577 acres out of a total of 804. The only important fig cultivation outside Purandhar taluka is in one or two villages of the Haveli Taluka just near the Purandhar taluka boundary. Owing to the special climatic conditions and the high altitude required in these regions for fig cultivation, the production is confined

even in the Purandhar Taluka to the north-western portion of the Taluka. There are in this tract nine villages which have an acreage under figs of more than 25 acres and which have a total acreage of 409. But small acreages are to be found in most villages in the favourably situated tract.

These acreage statistics have also been treated in a different way to determine the amount of specialisation of fruit cultivation in general in the district. Out of the total revenue villages in the Poona District numbering 1,203, acreage under fruit was reported from 406 villages. As was to be expected fruit planting of at least an acre is reported from more than half the villages in the Talukas of Purandhar, Bhimthadi and Shirur. The determination of a certain degree of concentration may be effected by counting the number of villages having an acreage under fruit of, say, at least 20 acres. In Poona District there were according to the figures only 80 such villages making up among them a total acreage of 4,580. The appended table shows their distribution in the various talukas.

TABLE II

Concentration of fruit acreages in villages.

Taluka.	Total No. of villages	No. of villages with a fruit-acreage of <u>1 acre</u> or over.	No. of villages with <u>20 acres</u> or over under fruit.	Total No. of Acres under fruit in the villages referred to in the previous column.
Junnar	163	61	7	680
Khed	24	56	7	170
Sirur	79	40	3	458
Haveli	242	80	25	1548
Maval	168	5	1	22
Purandhar	92	67	19	1005
Bhimthadi	129	75	17	638
Indapur	86	22	1	59
	1,203	406	80	4,580

It is neither necessary for our purpose nor is it possible for us to go any deeper into the question of the distribution of fruit producing villages and the specialisation in them in the district. There is no doubt however that this question merits more scientific study

and that the determination of climatic and other favourable circumstances necessary for the culture of particular fruits in this district, may enable vigorous efforts being directed at the building up of orchards in particular areas. So far as the purely economic factor hindering or helping the spread of fruit cultivation—namely accessibility to markets—is concerned, we shall deal with it at some length in the section on transportation. It is however not possible for us to state whether there are any villages in the District in which fruit growing is discouraged because of the unfavourable state of communications. Roads, according to average Indian standards, are plentiful and fairly well distributed in the district and it does not seem likely that in the favoured fruit area there are any considerable tracts with very bad communications. But it is certainly not possible to be more definite on this question.

It would be extremely interesting to say something about the recent trends in the expansion of fruit acreage in Poona District. There is unfortunately little data on which to base a study of this sort. An early piece of information on the production and trade in fruit in Poona is found in the Poona Gazetteer of 1885¹ which has the following: "Since the opening of the Railway the export of perishable produce has greatly increased. Among the chief branches of this trade are the export of betel leaves, vegetables and fresh fruit from the Haveli and Purandhar sub-divisions and potatoes from Junnar and Khed. The trade is rapidly growing on account of the impetus given to market gardening by irrigation from Lake Fife. Bananas are sent from Ale, Otur and Junnar to Bombay by Talegaon, also from Valha in Purandhar by the old Satara road to Poona. Grapes are sent from Vadgaon, Kandali, Rajuri in Junnar and from Pabal and Kendur in Sirur. Figs are sent from Diva, Parincha, Sonavri, Gurholi and Mahur in Purandhar and from Gogalwadi and Alandi-Chorachi in Haveli. Pomegranates are sent from Supa, Devalgaon, Gadag, Vadgaon in Bhimthadi and from Alandi-Chorachi and Urali-Kanchan in Haveli. Mangoes are grown extensively at Khed-Shivapur in Haveli, also at Sasvad, Chambli, Supa-Khurd, Bhivri and Bopgaon in Purandhar and Ausari-Khurd and Kadus in Khed. Oranges and guavas are grown at Kothrud, Yerandavna, Mundhva, Parbati,

¹ Gazetteer of the Bombay Presidency (1885.) Vol. XVIII, Pt. II., p. 169.

Mali and Munjeri and sent for sale to Poona." There are no statistics of acreage etc. given and the extract need not be taken as stating the facts exhaustively. It also obviously gives not always the exact centres of production but rather the originating points of the trade. Even so the extract enables us clearly to point to certain important changes in fruit production that have taken place during the last fifty years. In the case of bananas the Junnar centres retain their old importance but it is to be observed that the Gazetteer does not at all refer to the banana acreage under irrigation in the Haveli Taluka. This may, therefore, well be a later development. In grapes there seems to have come about a most remarkable change; ¹ for, today Poona district is not important at all as a producer of grapes and only nine acres are reported as under grapes in Junnar Taluka and none at all in Shirur. It is not known how and why these centres had become important in the former times and why they have declined. Purandhar continues to dominate fig production today; and Gogalwadi in Haveli has a considerable acreage under that fruit today, but not Alandi-Chorachi. While the old pomegranate centres are important even today, the extension of the cultivation of this fruit in Purandhar may be new if such an inference can be drawn from mention not being made in the above extract of any centre in that taluka. Guavas are still confined mostly to the canal area in the Haveli Taluka. The most important recent change seems however, to be the growth of orange cultivation. The Gazetteer mentions as centres of citrus fruit production only the villages in the vicinity of Poona city. It may be also noted that oranges etc. are mentioned as being sent to Poona for sale. Conditions in this respect are totally different today. Big centres in Shirur, Purandhar and Haveli talukas have come into existence now and the bulk of the produce finds its way to Bombay.

The Gazetteer contains no statistical information regarding acreage under fruit trees. This is however, contained in the first Statistical Atlas of the Bombay Presidency. This Atlas gives figures of acreage under fruit in the various Talukas for the year 1886-87.

1 See also the Revision Settlement Report of Junnar Taluka (1916), where the Collector remarks that the grape gardens of Junnar used at one time to be famous.

TABLE III.

Fruit acreage in different Talukas of Poona District
in 1886-87 and 1930-31 compared.

No.	Talukas	Area under Fuit trees.		
		year 1886-87	year 1930-31	Increase + decrease -
		Acres	Acres	Acres
1	Junnar	975	1010	+ 35
2	Indapur	27	182	+155
3	Khed (including Ambegaon Peta.)	204	379	+175
4	Shirur	109	637	+528
5	Purandhar	419	1264	+845
6	Bhimthadi (including Dhond Peta.)	122	985	+863
7	Haveli (including Mulshi Peta and Poona City Taluka.)	2,356	2,153	- 203
8	Mawal.	19	32	+13
	Total No. of acres.	4,231	6,642	+2,411

The above table shows that there has been during these 45 years an increase of nearly 56 p. c. in the total acreage under fruit in the district. The variation has, of course, not been uniform in the different talukas. Haveli shows an actual decrease. This is not to be wondered at. At that time when the Southern Maratha Railway had been opened only a year or two ago and road communications throughout the district had not been considerably developed, it is natural that the greatest concentration of fruit-acreage should be in the vicinity of Poona. There was already a tradition of fruit orchards around the city from the time of the Peshwas and the newly opened Mutha canals had specially helped the extension of the planting of fruit. When these special advantages of the Haveli Taluka were no longer so important as before, extension of fruit acreage was naturally stopped and inevitably some decline in acreage followed. Junnar also shows a very small increase. As we have noticed above the acreage in Junnar is predominantly under bananas. This had already extended considerably in the eighties and there has been, therefore, no large addition to it since. The four talukas of Shirur, Purandhar, Bhimthadi and Indapur show on the other hand very remarkable progress. In the two latter this is due almost entirely to the later development of irrigation facilities and even more to the

fact that the recent fall in the price of 'gul' has driven many cultivators in these tracts to reducing the area under sugarcane and planting fruit orchards. In the case of Shirur the main contributing cause is the spread of orange cultivation. As is evident from the Gazetteer the cultivation of citrus fruits in Poona must have in the eighties been insignificant and confined mostly to the environs of Poona City. It was when santra and mosambi cultivation was introduced and spread that Shirur with its two chief centres—Talegaon-Dhamdhere and Shikrapur—became important. In the case of Purandhar Taluka this reason also applies. There is, however, an additional reason i. e. the working of the M. S. M. Rly. This made possible not only the plantation of oranges but also a considerable extension of the area under figs.

The only later figures, we possess, giving distribution of fruit acreage by talukas are those contained in the Statistical Atlas of 1925. These however, for reasons explained above, cannot be taken as accurate and have, therefore not, been taken into account. Rao Bahadur P. C. Patil's bulletin does not give the taluka figures but gives details for individual fruits which also afford a basis for indicating recent trends.

TABLE IV.

Fruit-acreages in the Poona District in 1914-15 and 1930-31.

	* Year 1917-18.	† Year 1930-31	Increase +, Decrease -
	Acres.	Acres.	Acres.
Grapes	57	37	- 20
Bananas	1029	1556	+ 527
Pomegranates	742	808	+ 66
Guavas	620	804	+ 184
Figs	426	597	+ 171
Oranges and Lemons	1785	2520	+ 735
Mangoes	166	130	- 36
Total ...	4825	6452	+ 1627

This table again shows considerable increase in acreage during the last 13 years. The mango acreage need not be taken into consideration and the area under grapes is insignificant and is also diminishing. In bananas and in citrus fruits there have been large

increases. Substantial advance is also to be noted in the case of figs and guavas. The increase is small in pomegranate acreage. Most of this fits in with the generally observed facts. The Poona pomegranate is comparatively an inferior fruit. The same is, however, true of the Poona guava which shows a considerable increase in its acreage. This increase is much larger than could be ordinarily expected and we can find no satisfactory explanation for it.

The most important features of recent history are, therefore : the establishment of orange cultivation in the last decade of the last and the first decade of the present century and its continued expansion since then, the important position that bananas continue to hold and their steady expansion, a similar position with regard to figs in their own narrow tract. Pomegranates and guavas, on the other hand, do not seem to have grown in importance and are perhaps declining and will continue to do so, unless steps are taken early to improve their quality. Of minor importance are the disappearance of grapes and the recent rise of papayas.

(ii) *Size of holdings* :—We may next consider the conditions of fruit production in the district. As we have pointed out above fruits are largely grown in the transition tract chiefly in the rich valleys which lie between the East-West spurs of the Western Ghats. This zone has a comparatively certain rainfall and the possibilities of the development of both canal and well irrigation are in it very considerable. It has thus a decided advantage over the more easterly parts of the Bombay Deccan. The region is one of garden cultivation par excellence and one of intensive cultivation.¹ This intensive cultivation finds its greatest development round Poona which has a considerable demand for fruit and vegetables and where a good supply of manure is also obtainable. The West Deccan farmer who is comparatively prosperous and has in many cases his own well, is more used to live on his own holding. There is in his case thus removed one of the handicaps to fruit cultivation mentioned by the Agricultural Commission.²

It may be laid down at the very outset, that the representative fruit grower in the Poona District is the small cultivator who plants very small orchards and who depends on fruit as one of his chief

¹ Vide, Simpkin's Agricultural Geography of the Deccan Plateau.

² Report of the Royal Commission on Agriculture in India, 1928, P. 590.

money crops, but who has also a considerable dry and some wet cultivation for growing food grains and fodder. Before the advent of railways, fruit growing was most probably confined to mango groves and to fruit orchards attached to the pleasure gardens of Sirdars and Jagirdars, and it would largely be concentrated in the area immediately around Poona. Considerable impetus to the more general spread of this cultivation was given in the first instance by the opening of the railway connection with Bombay in 1858 and the construction of Lake Fife and the Mutha canals whose water supply began to be available about the year 1875. Even so, as we have seen in the previous section except for Junnar bananas and Purandhar figs the cultivation of fruit was very largely confined in the eighties to the vicinity of Poona and to the Haveli Taluka. The citrus fruit cultivation is almost entirely a later growth. One of the many reasons why fruit cultivation has spread in the district is that fruit trees require less water for irrigation than crops like sugarcane. Further the rich deep black soils to be found in some Deccan districts like Sholapur are not common in Poona and on the medium black or poorer soils fruit thrives even better than on the deep black soils. In parts of Poona district where rainfall is scanty but outside water available, fruit growing is the only standby of the cultivator. This is specially the case in Purandhar Taluka. There are many places in this taluka where, with the help of a comparatively small quantity of well-water and on small patches of rather poor soil, cultivators are successfully growing fruits like figs and pomegranates.

Fruit farms in the Poona district may be divided into various classes. The first class may consist of those single orchards that are larger in extent than five acres. This is possible only where considerable irrigation facilities exist such as from government canals, small brooks or rivulets, small tanks or unusually large and good wells. This also means that a commercial fruit orchard where fruit growing is the main aim is attempted. Such, however, is not usually the case with fruit growers in the district. Large orchards, such as those of Mr. Raskar at Khalad or Mr. Patil at Shikrapur of citrus fruits, the orchards of bananas and grapes of Mr. Shembekar at Nimbut or of grapes of Mr. Karawade at Chakan are outstanding exceptions. In the very large majority of cases fruit, though an important money-crop, does not take up a large portion of the total cropped acreage nor even

necessarily the major portion of the irrigated land. It is, therefore, the orchards under 5 acres that are overwhelmingly the dominant class. Even in this class two subdivisions may be made. The class between 1 acre and 5 acres and the class below one acre. In limiting the area to less than 1 acre, the important factor seems to be the availability of water. In a number of places, wells have a limited supply of water which may run very short during the summer months. On the other hand, in tracts at the bottom of large catchment-areas or near brooks or rivulets, wells would have a good supply of water and considerable irrigation would be made possible. Connected with all small orchards would be found a large area under a dry crop such as Jowar and Bajri or pulses chiefly for providing the food-grains for the family and fodder for cattle. Further usually all the irrigated area would not be put under fruit for various reasons. Crops requiring being watered a few times during the season such as wheat, gram or groundnut may be grown and even crops such as chillies, garlic or other vegetables requiring irrigation for only a 3 or 4 month period and thus not affecting much the water supply of fruits may be cultivated. As our enquiry was not directed towards the conditions under which fruit is produced, it is not possible for us to say much as to why these variations under fruit acreage take place and what are the main factors influencing the choice of various crops. Irrigation, we have already indicated, as an important factor. Special water-supply facilities such as the tanks at Khalad and Walunj, play an important part in extending acreage under fruit; again on canals with their heavy water-charges, people have turned to fruit-growing only lately with the continued fall in the price of gul. But apart from these general considerations, we know little of the other important influences determining the choice.

The Poona fruit cultivator grows his fruit almost entirely for the market and is predominantly a small cultivator. These facts do not square with some of the observations made by the Royal Commission on Agriculture in their report. The Commission says, "In other areas, where various commercial fruits would undoubtedly do well, such as the Nilgiri and Annamalai Hills in Madras, and parts of the Deccan, little or no cultivation of fruit for the market is attempted.¹" and also further "While there can be no question

¹ Report pp. 590-91.

that there is much scope for the small cultivator who endeavours to supplement his income by growing cheap and hardy fruit for local sale, there are serious obstacles to be overcome by the grower who proposes to specialise in fruit growing for the larger and more fastidious urban markets." ¹ It is obvious that in Poona District the facts of the actual situation are entirely at variance with the remarks quoted above. In Poona almost all fruit growing—especially in the case of such important fruits as oranges, figs, pomegranates etc., is mostly for the urban markets, the most important of which is Bombay, and fruit production is mostly in the nature of a joint crop of the small cultivator together with other crops.

Though our investigation was not specially directed towards this inquiry, there have incidentally come to our hands in its course certain data regarding the size of holdings of growers of fruit in the district, which may prove to be interesting. The first source of such information are the questionnaires to which answers were given by several important growers in the various tracts. Forty-three out of these questionnaires contain complete details regarding the area under fruit owned by these growers. It is obvious that this sample can by no means be considered as representative. For, it is composed mostly of picked, prominent growers of the district from whom we expected to obtain important information. Of these 43 growers 23 grow one fruit only ² and 16 grew two kinds of fruits. While one grower each grew three, four, five and seven varieties of fruits. The following is the classification of the 43 growers according to the size of their fruit holding; the table also shows the total fruit acreage held by the growers in the different groups.

No. of growers having an acreage of	No. of growers.	Total acreage under fruits	
		Acres	Gunthas
More than 10 acres under fruit.	3	74	1
" 5 but less than 10 acres under fruit.	6	40	20
" 2½ " " 5 " "	9	35	19
" 1½ " " 2½ " "	9	17	10
" 1 " " 1½ " "	8	8	46
less than 1 acre	8	1	5
Total ...	43	180	11

¹ Report p. 590.

² Different varieties of citrus fruits are not counted separately.

The above table is entirely unrepresentative and would give a wrong impression of general conditions. It is, therefore necessary to supplement it by other information. We were able to obtain from the office of the Horticulturist to the Government of Bombay a list of the more important growers of fruit on the Nira Left Bank Canal in the Baramati and Indapur Talukas together with the varieties grown and the acreage under fruit. The total number of growers in this list is 75, of whom 43 grew one variety of fruit and 32 two varieties. Their distribution according to acreage is shown below.

No. of growers having an acreage of	No. of growers.	Total acreage under fruits	
More than 10 acres under fruit.	1	Acres	Gunthas
" 5 but less than 10 acres under fruit.	5	15	20
" 2½ " " 5 " "	9	29	10
" 1½ " " 2½ " "	22	34	20
" 1 " " 1½ " "	5	37	30
less than 1 acre	13	25	10
		6	20
Total ...	75	148	30

This classification gives a more correct picture of the position ; but even this list, being a picked one, errs on the side of giving undue prominence to large growers. It has further to be remembered that ample irrigation facilities in this area make it possible, if desired, to put large areas under fruit. During the course of the investigation in Purandhar Taluka, information was collected in some of the villages visited, regarding the number of fruit trees owned by various villagers who had gathered to answer the questionnaire jointly or about whom information was supplied by others. This information converted into acreage figures according to the locally ascertained average of fruit trees per acre, yields data which though not entirely accurate or representative are approximate enough and may prove to be of some interest. Classification of 50 growers of figs at Waghapur :—

No. of growers having an acreage	No. of growers.	Total acreage under figs	
above ½ and below 1 acre	12	Acres	Gunthas
under ½ acre.	38	6	32
		9	7
Total ...	50	15	39

Classification of 22 growers of fruits at Sakurde :—
(15 Citrus fruits and 7 figs.)

Citrus fruit growers—

No. of growers having an acreage of	No. of growers.	Total acreage under citrus fruits.	
Less than 5 but more than 2 acres.	1	Acres	Gunthas
" 2 " " 1 "	5	2	10
" 1 " " ½ "	7	6	20
" ½ acre.	2	4	10
		0	16
Total ...	15	13	15

Fig growers—

No. of growers having an acreage of	No. of growers	Total acreage under figs.	
Less than 5 but more than 2 acres.	1	Acres	Gunthas
" 2 " " 1 acre.	3	3	0
" 1 " " ½ "	0	3	30
" ½ acre.	3	0	0
		0	39
Total ...	7	7	39

Classification of 69 citrus fruit growers of Walunj.

No. of growers having an acreage of.	No. of growers.	Total acreage under citrus fruits.	
5 acres or over.	2	Acres	Gunthas
2 or more than 2, up to 5, but not less than 2.	5	10	0
1 acre or more than 1, up to 2, but less than 2.	16	12	10
½ acre or more than ½ upto 1, but less than one.	21	19	38
below ½ acre.	22	15	10
		5	25
	69	63	4

It may be noted that all these figures refer to conditions in the Purandhar Taluka. These conditions are not, however, materially different from those of other talukas. A further important point indicated by these village figures is that while in the case of figs the holding is, in a large number of cases, less than half-acre this is

rarely so in the case of citrus fruits. It is thus clear that fruit-growing in this District is not an exclusive profession but is merely a part—though in many cases important as a money-crop—of the whole agricultural farm unit.

(iii) *Number of trees and yield per acre*:—It is impossible to give even approximate estimates of the total production of fruit in the District. During the course of our investigation certain enquiries were made regarding the average production of fruit trees in the district, but the entire absence of information regarding the number of new orchards planted and the proportion of bearing to non-bearing trees makes any calculation out of account.

As a general rule fruit trees in this district are planted together very closely. One of the main reasons encouraging the continuance of this tendency, seems to be the impression that a closely planted orchard will fetch a higher price from a Khotidar as the khoti prices are fixed at so much per tree. Some progressive growers are now realising the advantages of leaving larger distances between the trees and this practice is growing somewhat. According to our enquiries bananas in the Junnar Taluka are planted very thickly and one thousand plants to an acre may be taken to be the average on this side. It takes usually fourteen months to get a fully developed banana bunch from the time of planting. In Junnar Taluka the important varieties are two—Kali and Soni. In the “Kali” variety a bunch of bananas has at least 30 to 40 fruits, but may have as many as 75 to 100, the average number being usually 50 to 60. In the case of “Soni” the number of fruits per bunch is somewhat larger; the average number is usually from about 60 to 75. In Walha (Purandhar Taluka) the plantation is not so close and the number of plants per acre is on an average about 750. From the time of planting it takes, at this place, nearly 12 months to get a fully developed banana and the number of fruits per bunch is at a minimum 75, at a maximum 125, with an average of nearly 100.

In the case of figs the distance between the plants varies from about 13 feet, each way, to about 15 feet, giving approximately 250 to 200 trees per acre. The estimates of production per tree given by various producers varied enormously. This was specially the case as the production has of recent years been materially affected by the rust disease. The estimates given to us varied from an average of

10 sers per tree to 30 sers. The lower average being obviously for the disease-affected trees. It would seem that the average production of disease-free trees is from 20 to 25 sers per tree. The fig tree begins to bear fruit from the second year of planting, but the fruit crop is then not substantial. Fruit is plucked usually from the third year and a steady production is assured from the fourth year onwards. The average life of a tree is from 15 to 20 years.

The common distance between trees in guava orchards is 12' \times 12' giving nearly 300 trees to the acre. In exceptional cases the number of trees to the acre may be as low as 200. The Poona guava is an inferior ungrafted fruit. A special process—that of bending the branches—is here resorted to for increasing the production of the trees. This process is usually undertaken every alternate year. The yield of a bent and an unbent tree differs enormously. The average yield of the former, in the year it is bent, is 300 fruits, while that of the latter is only about 25 fruits. A guava tree may bear a small number of fruits even in the third year from planting. The yield however, goes on increasing during the fourth, fifth and sixth years and becomes steady only from the seventh year onwards.

The practice regarding the distance kept between the trees varies enormously in the cases of oranges. In santras there may be as many as 500 trees to the acre or in the case of some very progressive growers as few as 250. In the case of mosambis in the Purandhar Taluka 10' \times 10' was the common distance, giving a number of trees somewhat larger than 400 to the acre. But here again the progressive gardeners plant trees much less closely. In both cases, however, 400 trees to the acre seems to indicate the general practice at the present time. In mosambis the normal age when the tree begins to bear is the third or the fourth year. The yield per tree may approximately be stated as follows, minimum 50–75 fruit, maximum 400 to 500. The average figures of the yield of a tree on rich and well fertilised soil would be 300 fruit while on ordinary soil ordinarily manured it would be from 150 to 200 fruit. A santra tree begins to bear from the fourth year but normal yield commences only from the fifth year. The figures of yield per tree from the evidence of growers may be stated as under, minimum 50 to 100 fruits ; maximum 400 to 500 ; average 150 to 200 fruits.

In the case of pomegranates the average number of trees per acre may be taken to be about 400 and the normal yield per tree, which is obtained usually from the fifth year onwards, is reported to be on an average between 75 to 100 fruits. It should be noted that all the information summarised above has been obtained in the course of investigation through the district from growers on the spot. It is not known whether in figures, such as production figures, any general tendency to under-estimate the yields was shown by them.

(iv) *Imports of fruit into Poona City*:—The above data might be made the basis of some estimates of fruit production in the district, but as there was no information collected by us as to the proportion of fruit bearing trees to non-bearing trees we do not hazard any calculations. Some idea of the volume of production may, however, be obtained from the statistics of the imports of fruit into Poona City in recent years. No doubt, not all the fruit that is imported into Poona City is grown in the District but as will be shown in a later table the imports by rail of fruit into Poona other than mangoes and lemons is quantitatively unimportant and it is unlikely that much fruit from outside the district comes into the city by road. It is on the other hand, also clear that all the production in the district does not come into Poona City. We shall later have occasion to point to the varying proportions of the total production of various fruits which is sent to Bombay, to Poona or other centres of consumption. The statistics of imports into Poona do not include the amount of the exports of fruits from railway stations in the District other than Poona. The figures of imports that we have compiled from the octroi registers include all fruit that comes to the Poona City Market, as well as the fruit that is sent directly from the Poona railway station to Bombay and other centres. We shall discuss in what follows the supply of fruit to Poona bearing these facts in mind. We have compiled detailed figures of the statistics of fruit imports into Poona for the years 1930-31 and 1931-32 from the records of the octroi nakas (i.e. stations) of the Poona City Municipality which were kindly placed at our disposal by the chief officer of the Municipality. According to these figures fruit amounting to 167 thousand maunds and 185 thousand maunds were imported into Poona during the years 1930-31 and 1931-32 respectively. The main constituents of this import and their respective weights were as follows.

TABLE No. V

Imports of fruits into the Poona City.

Fruit	April 1,1930 to March 31,1931	April 1,1931 to March 31,1932
	Maunds	Maunds
Bananas	38,913	46,801
Mangoes	30,785	33,396
Santras	25,872	25,820
Mosambis	9,801	15,326
Guavas	12,101	7,977
Figs	7,343	12,434
Water-melons	9,608	8,719
Pomegranates	8,702	8,934
Musk-melons	8,192	6,372
Lemons	4,375	4,810

This is indicative of the volume of production that finds its way into Poona City. Bombay, however, is a much more important market than Poona and as we could obtain no information from the railway authorities regarding the shipment of fruit from the various railway stations within the district to Bombay and other distant markets, the total volume of production cannot be calculated. One of the most important "Hundekaris"¹ in the district

* Besides the above mentioned fruits, there are some of minor importance the imports of which into the Poona City during the same years were as under:-

	Maunds	Maunds
Apples	80	41
Awalas	129	129
Bors	452	1553
Chikus	31	32
Mustard-apples	71	167
Grapes	925	710
Jack-fruits	727	2114
Jambuls	89	98
Karwands	73	54
Papayas	2537	910
Peaches	3	0
Pine-apples	13	204
Pomelos	8	7
Strawberries	237	500
Wood-apples	79	89
Fruit (unclassified)	5465	7738

¹ 'Hundekari'—is a forwarding agent who does the shipping of fruit parcels at railway stations for the consignors.

gave us the following figures as his estimates of the average annual volume of exports of oranges (both santras and mosambis) from Poona. He was of opinion that usually a lakh and half baskets of oranges came into the Poona market every year of which nearly thirty thousand were retained for consumption in the city itself and the rest sent out; that nearly 80 thousand baskets were booked directly at the Poona Station without passing through the hands of the salesmen at the Poona City market. Thus from Poona station there would be a total annual export of 2 lakh baskets of oranges, of which one half would go to Bombay and the other half to other big centres in various parts of India. He further estimated the export of oranges from other railway stations in the Poona district as follows:—(In thousand baskets). Hadapsar, 30; Loni, 10; Uruli, 20; Yevat, 5; Kedgaon, 10; Baramati, 10; Lonand, 4; Walha, 6; Jejuri, 10; Rajewadi, 25=130 Total. Of these, it was said, nearly three quarters went to Bombay and the rest to other centres. If we assume this estimate to be approximately correct, the total export of oranges from the Poona district would amount to 3·3 lakhs baskets of which nearly 2 lakhs go to Bombay and the rest to other centres. Allowance being made for consumption in Poona City and district and for export from stations like Talegaon-Dabhade which have not been included above, we may put the figure of the total production of oranges in the District at about 4 lakh baskets annually. This, it is obvious, is the roughest guess and it is not possible to check it by reference to any other data even of the type given in the previous section; but nothing better is possible until a census of fruit-trees etc. is taken or railway authorities keep more detailed statistics of the movement of traffic on their lines and make their records available for the purposes of such an enquiry.

We may now discuss in some detail the statistics of imports into Poona City. It should be noted that these data are not completely exhaustive. For fruit brought in headloads into the city is exempt from the octroi duty when the duty chargeable is less than As 4, which is always the case with headloads of fruit. In some cases this import in headloads may amount to a considerable quantity. Large quantities of fruit grown within say a ten or sometimes even fifteen mile radius of Poona is imported in headloads and import figures will considerably be affected by these. It was ascertained by detailed enquiry that import in headloads is mostly from the canal area to the South-West of the city and the fruits most affected would be guavas, bananas, mangoes and bors. The extent to which the non-entry of headloads affects import figures and the importance of the various sources of district fruit supplies to Poona will be made clear from the following table which analyses the imports by the various octroi nakas through which they passed.

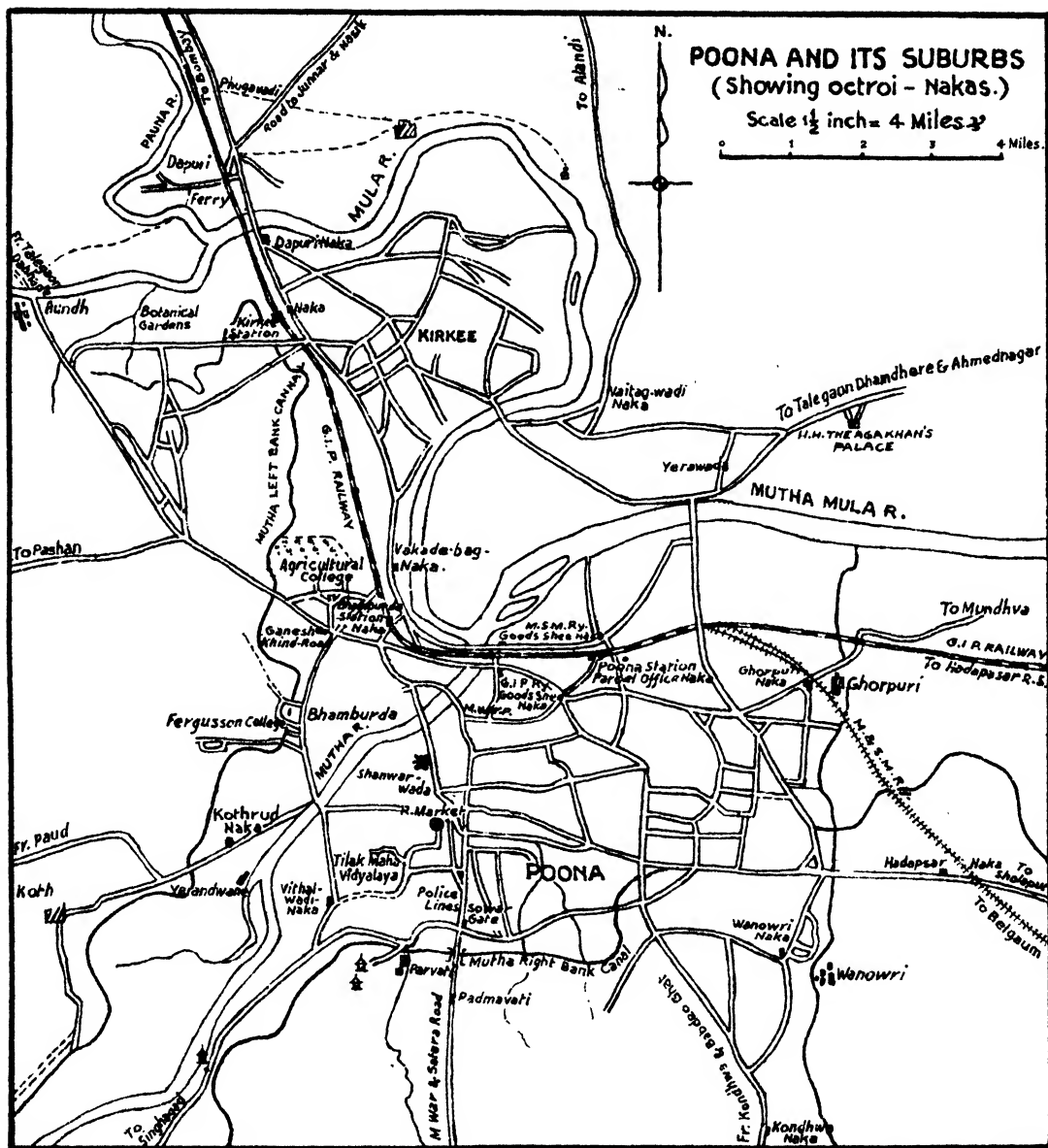


TABLE VI

Imports of different fruits into the Poona City through different Naks (or Octroi-Stations), in the years 1930-31 and 1931-32.
(in maunds.)

Fruit.	1		2		3		4		5		6		7		8		9		10		11		12	
	Yeravda		Vaitag-wadi		Hadap-sar		Kon-dhva		Dapodi		Swar-gate		Ganesh-khind.		Vithal-wadi		Kotharud		G.I.P. Ry. Goods shed Naka		Poona Station Parcel Offices Naka		M. & S. M. Goods Shed Naka	
	1930-31	1931-32	1930-31	1931-32	1930-31	1931-32	1930-31	1931-32	1930-31	1931-32	1930-31	1931-32	1930-31	1931-32	1930-31	1931-32	1930-31	1931-32	1930-31	1931-32	1930-31	1931-32	1930-31	1931-32
Bananas	2	197	778	4002	1793	1755	33	28	344	137866	341	395	1	346	1042	1735	101	33	0	0	198	140	31	1
Bors (Jujubes)	1	1	0	0	1	4	0	0	0	0	0	1	0	59	0	0	0	0	0	0	450	1488	0	0
Figs.	28	0	0	0	3079	6559	3216	4101	0	0	1011	1713	0	0	0	0	1	0	0	0	6	60	0	0
Grapes	50	22	7	0	108	0	0	0	149	28	0	0	0	0	0	0	0	0	0	0	611	660	0	0
Guavas	1	1	0	0	24	8	0	0	3	0	70	210	15	529	7977	3961	4011	3278	0	0	0	0	0	0
Lemons	290	298	58	83	2567	2436	14	0	239	113	319	458	23	22	2	9	0	0	0	0	857	1276	0	0
Mangoes	125	80	23	30	3051	1993	539	3	593	125	1051	13393	1438	80	2332	8627	5645	5380	0	924	5626	2030	807	10590
Mosambis	950	1381	120	478	5184	10144	241	163	844	718	1528	1805	23	89	412	287	48	12	0	0	316	153	43	10
Musk-melons	3479	4225	26	14	4532	2087	0	0	13	0	0	0	0	0	158	32	0	0	0	0	7	1	0	0
Papayas	276	80	124	48	472	510	9	6	11	67	1167	156	0	25	412	4	14	21	0	0	0	1	0	0
Pomegranates	636	352	1	0	8033	8538	0	0	1	0	0	16	0	0	0	0	0	0	0	19	28	0	0	0
Santras	20708	16505	1098	559	2518	2815	8	5	1214	5654	86	100	23	0	13	0	0	0	0	0	52	128	0	0
Water-melons	401	1088	0	13	3908	2948	0	0	2330	3101	63	0	0	0	2896	1082	0	475	0	10	12	0	0	0
Total ...	26947	24230	2235	5227	35260	39797	4060	4306	39797	47685	15096	8247	1525	1150	15244	15738	9819	9199	0924	8152	5967	881	10591	

The chief supply of bananas to Poona comes through the Dapodi naka which is on the Khed-Junnar route, a certain amount comes through Vaitagwadi which lies in the same direction and Hadapsar which represents the stream from the direction of Purandhar Taluka. The influence of head-loads is seen clearly in the absence of any substantial imports through the Ganeshkhind, Vithalwadi and Kothrud nakas even though very considerable acreage under bananas exists in these directions in the neighbourhood of Poona.¹ The almost entire absence of bor² imports in the octroi records other than those through railways indicates that the whole of the local supply is brought in headloads into the city. The fig supply comes in three channels: through Hadapsar naka comes the Purandhar taluka supply which comes via the Diva Ghat; and through the Kondhva naka the Purandhar taluka supply which comes through the Babdeo Ghat. The third and much smaller source is from the Haveli villages, beyond Katraj and around Khed-Shiwapur, passing through the Swar Gate. This import would not be much affected by headloads. Grapes are mostly imported through the railways from outside the district but the small acreage in Khed and Junnar and in Bhimthadi is reflected in these figures. Guavas, as is to be expected come in, almost entirely, through nakas situated on the road-side of the Mutha right and left bank canals. Observation leads to the belief that the total imports are very considerably underestimated in this case on account of headloads. The same remark applies to mangoes which come according to the octroi returns from East Haveli and Purandhar, from the tract near Khed-Shivapur and also the Mutha canal areas. The dominant source of mosambi supply is East Haveli and the Purandhar taluka while in the case of santras it is the area round Talegaon-Dhamdhare and Shikrapur. It should be observed that the difference in the imports from the two directions is not in proportion to the acreage under the santras in the two areas. It would, therefore, seem that a larger proportion of the Purandhar taluka santras find their way directly to Bombay and other centres than is the case with those from Shirur taluka. This is quite natural in view of the geographical position of the Shirur taluka through which no railway passes and whose important main-road connection is with Poona direct. Pomegranates come almost

¹ See however, p. 12 ante.

² Bor or the Indian Jujube (*Ezzyphus Jujuba*. *Lamb*).

entirely through the Hadapsar naka as most of the acreage under pomegranates in the district lies in that direction.

The following table shows the imports of fruit into Poona since the year 1920-21 according to figures supplied by the Municipal office:—

TABLE VII

Yearly imports of fruit into Poona City during the years 1920-21 to 1932-33.

Year	Maunds
1920-21	1,29,776
1921-22	2,41,749
1922-23	1,60,055
1923-24	2,05,925
1924-25	1,26,652
1925-26	3,48,858
1926-27	1,69,855
1927-28	1,78,490
1928-29	1,89,908
1929-30	2,47,957
1930-31	2,20,552
1931-32	2,12,214
1932-33	3,19,756

The totals of fruit imports for the years 1930-31 and 1931-32 given in this table do not tally with the figures of imports prepared by us from the Municipal office records. The chief reason for the difference is the fact that while these totals of fruit are calculated by the Octroi office from income received from octroi duties, according to a rough method, the totals at our office were compiled from actual weights recorded in octroi receipts. While the average of the total imports for these twelve years works out at about 2 lakh maunds annually, the variations are immense ranging from 3.49 lakh maunds to 1.27 lakh maunds. These figures by themselves do not show any definite tendency for the imports to increase. The average of imports however, of the previous eight years i. e. from 1912-13 to 1919-20 was a little less than 1.5 lakh maunds annually. There seems to have been thus a distinct increase in imports and presumably also in production in the post-war period, a phenomenon which is also indicated by the acreage statistics. The 1885 Gazetteer* gives the average imports of fruit into Poona city for the years 1881 to 1884 as 3,963 tons i.e. 110,964 maunds annually. It is not known, however, whether this figure is comparable with the later statistics given above. Further in the absence of railway statistics it is not possible to estimate the extent of the reconsignment of fruit from Poona

* Gazetteer of the Bombay Presidency, Vol. XVIII, Part III, p. 302.

and thereby deduce the volume of the supply retained in the city for consumption.

It is not even possible to calculate what portion of these recorded imports arrive into the city market and what portion goes directly to the railway station. For, the rules for the grant of refund of the octroi by the Municipality do not allow for a refund of less than Re 1. And as in the case of fruit the duty amounts to Re. 1 only for a whole cart-load or 16 mds weight, the large bulk of the imports, which are in much smaller lots are not entitled to a refund. Even in the case of larger lots of imports it would seem that a refund is not claimed either because of ignorance in regard to the provisions or because of the trouble involved in obtaining the refund. This is obvious from the refund statistics. In 1930-31 no refund was claimed in respect of fruit and in 1931-32 it was claimed in respect of only 54 maunds of re-exported fruit.

(v) *Seasonality* :—The season of heaviest fruit imports is the second quarter of the year consisting of the months of April, May and

TABLE VIII

Monthly Imports of all fruits into Poona City during the
Years 1930-31 and 1931-32.

	Year 1930-31	Year 1931-32
	Maunds	Maunds
April	23,332	20,295
May	28,994	25,550
June	47,915	41,389
Total for the quarter ...	1,00,241	87,234
July	11,806	14,858
August	14,702	11,061
September	12,606	16,313
Total for the quarter ...	39,114	42,232
October	12,817	15,513
November	9,714	15,076
December	10,709	10,033
Total for the quarter ...	33,240	40,622
January	15,455	11,466
February	13,547	13,185
March	18,955	17,475
Total for the quarter ...	47,957	42,126
Total for the whole year ...	2,20,552	2,12,214

June when almost half of the total annual imports come in. The difference in imports during the other quarters is not so considerable; the lean quarter of the year is, however, undoubtedly the last. In total maundage, it is the heavy fruits that count most and the seasons of individual fruits, of course, vary widely. The following table shows in detail the monthly imports into Poona of the important fruits for the years 1930-31, and 1931-32 :—

TABLE IX

Monthly Imports of different fruits into Poona City.
(in maunds).

	Bananas	Bors	Figs	Grapes	Guavas	Lemons	Mangoes	Mosambis	Musk Melons	Papayas	Pomegranates	Santas	Water-melons
April 1930	1,780	...	2,075	222	250	215	135	517	3,155	1,026	60	1,666	1,185
May "	996	...	1,961	62	352	229	8,725	842	3,235	115	24	1,225	1,789
June "	541	...	793	13	170	265	20,062	913	...	29	59	2,851	1,622
July "	549	...	602	6	295	656	1,806	965	...	13	457	5,109	...
August "	991	...	68	14	784	376	49	1,220	...	41	1,632	7,018	...
Septem.,	2,551	...	35	31	2,005	317	...	1,543	...	27	2,312	2,673	...
October,,	5,310	...	22	22	2,450	337	...	473	...	75	1,794	1,315	...
Novem.,	4,314	2	26	4	1,500	197	...	1,071	...	99	1,268	642	...
Decem.,	4,812	78	...	...	12,353	397	61	1,132	...	149	465	561	...
Janu. 1931	6,018	265	6	23	1,561	405	2	557	...	220	309	405	16
Febr. "	6,239	107	120	169	351	450	...	322	...	249	236	365	2,138
March "	4,812	...	1,635	358	30	531	...	246	1,802	494	86	2,042	2,855
April "	3,310	...	3,684	24	109	315	443	579	4,831	248	123	3,251	2,324
May "	2,010	...	4,793	73	265	338	8,017	1,477	176	134	42	5,389	1,405
June "	986	...	2,583	10	150	440	19,488	1,318	...	37	122	2,553	40
July "	793	...	464	...	196	512	4,666	1,370	...	25	434	2,920	...
August "	2,314	...	56	2	174	620	772	2,700	...	38	1,201	2,255	...
Septem.,	5,141	...	277	2	384	442	...	2,272	...	5	2,198	2,271	14
October,	6,917	...	163	...	333	401	...	1,564	...	11	2,660	1,023	...
Novem.,	7,295	2	2	3	1,409	337	...	1,764	...	53	1,111	1,204	...
Decem.,	5,148	31	...	...	11,558	491	...	877	...	74	554	653	...
Janu. 1932	4,044	1082	...	...	12,160	354	7	577	...	115	218	528	29
Febr. "	4,556	409	106	41	1,085	217	...	390	...	92	246	859	760
March "	4,287	29	336	253	164	393	3	438	1,365	78	25	2,914	4,141

A large number of fruits have a distinctly marked and a fairly short season during the year and this is clearly shown in the monthly import statistics especially when the imports are drawn from a

single source. This is the case with jujubes, figs, grapes, mangoes, musk-melons and water-melons. The imports of grapes bulk very largely in the months from February to May, and more especially during March and April. This clearly shows that it is Nasik grapes that are chiefly imported into Poona. The imports during the other months which would be chiefly from the North are comparatively very small. Other points to be noticed about these figures are that the quantities of the imports vary widely from year to year and that the comparative importance of the various months may not be the same in any two years. With regard to figs the only important season is the summer. The fig trees also yield another crop usually called the "Khatta Bahar"; but as the quality of the fruit of this crop is very inferior, neither the growers nor the consumers care much for it. The fig crop is really abundant during the months of April and May. The fruit distinctly deteriorates in quality once the monsoon sets in. For the local mangoes the months of May and June are distinctly the most important. In July the supply consists to a larger extent of mangoes imported by rail from distant places—chiefly in the South. The season for musk-melons is spread over the months of March, April and May; and that of water-melons from February to June. For the other fruits there are more than one harvesting seasons in the year and in some cases more than one sources of supply, and the fruit supply is, therefore, more evenly spread. In the case of bananas there is no particular harvesting season as such. But the fruit yields are heaviest usually during the winter months, the leanest months of the year being those from May to August. The bulk of the imports are from Junnar; and Junnar production during the months, May to July, is entirely insignificant. It is at this time, however, that a fair proportion of the Purandhar crop, especially from Walha, matures; and the imports for these months are made up mostly of this. The harvesting seasons in the case of guavas may be taken as three, of which, however, only two are really important. The months when the fruit matures in the cases of these seasons are August to

October, November to January, and February to April respectively. It will be seen that the three run into each other. As the last season is of little importance, the months of heavy production are usually from September to January. Agricultural production is notoriously variable, being subject to a large variety of factors. During the year 1932 the guava crop round Poona was very poor during the first season owing, it was said, chiefly to the depredations of bats; and this is reflected in the imports statistics for that year of the fruit. In the case of pomegranates, again, the main cropping seasons are two: the months in which the fruit matures are, in the case of the first season, August to October; and in the case of the second, October to December.

In the orange group the three seasons when santras mature are usually February to May, July to August, and October to November. Of these only the first two are really important. It has to be observed in the case of all these seasons that the months mentioned above are to be taken as only approximately representing the conditions. For, obviously, there would be large variations dependent on controllable and non-controllable factors in the actual period of blossoming and the length of time required for the fruit to mature. The case of mosambis represents an extreme instance of these variations. Mosambis may be plucked and marketed when only ten months have elapsed from the time of their blossoming, up to any period even exceeding fifteen months. It thus always happens that there are at the same time fruits of the earlier and the later season in the market. The fruit of the earlier season, being more mature and thus of a superior quality, fetches a price of anything from 25 to 50 p. c. higher than the fruit of the later season. Thus there are for a large part of the year two sets of prices quoted in the market for this fruit. Speaking quantitatively, the main bulk of the first cropping season of the year comes on the market during the months of February and March; of the second, which is the most important, from May to September; and of the

third from October to December. It will be seen from the statistics that the first is the leanest crop.

With seasonality of fruits is also bound up the question of the movement of fruit prices during the year and we proceed to discuss this question in the next section.

(vi) *The Trend of Prices* :—There is, so far as we are aware, no record anywhere available of wholesale prices of fruit in the various Indian markets. In some of the more important cities, the municipal or market authorities publish daily or weekly tables of prices, but these are invariably tables of retail prices.¹ Thus for a consideration of the movements of wholesale prices no data are available; but even in the case of retail prices the statistics published by market authorities are of no value for our purpose. The entire absence of grading and standardisation of qualities makes it impossible to compare prices from week to week either in the same market or as between different markets; and in the absence of careful grading, the range of variation in prices, given for a single fruit, is so large as to make it very difficult to discover regular trends. During the course of our investigation we attempted to collect a certain amount of data on this point. Our investigator attended the Reay Market, Poona on two or three days in a week during a whole year, and attempted to gather as much information as possible regarding both wholesale and retail prices. The retail price statistics were comparatively easy to obtain, but there was great difficulty in collecting information about wholesale prices. In cases where a secret auction was conducted, wholesale prices would not be divulged by the dealers; and even in the case of the open auction, the investigator's presence was regarded with suspicion, if not hostility, by the commission salesmen. Before beginning the work of collecting price

1 At the suggestion of the Institute, the Poona Municipality has recently started publishing fruit and vegetable prices once every week. The form of this table provides for the indication of wholesale prices; but the market inspector reports that he is unable to obtain the figures and these columns are con-

statistics, the investigator had carefully worked out a system of grading the various fruits according to their various qualities and an attempt was made to note the prices, having these grades in mind throughout the period. In the absence of grading in the market, however, the difficulties involved in this mental process were obviously very great. In the discussion regarding the price data collected by our investigator, in the following paragraphs, these limitations of the statistics have to be borne in mind.

There was little information available regarding the movements of prices during past years. The general replies received in our questionnaires to this question show that, while in the case of some fruit such as figs the fall in prices in recent years has not been considerable, in the case of some others such as guavas it has been enormous. While little information was available directly on the question of prices, there was more of it obtained regarding the "khoti" prices per tree which, of course, reflect fruit prices, at a lag. In the case of bananas in the Junnar taluka, we were told that the "khoti" prices per 105 bunches varied over the years in the following manner:—1913-14, Rs. 40 to 60; 1917-18, Rs. 60 to 75; 1918-19 to 1928-29 Rs. 75 Rs.125; 1929-30, Rs. 75 to 60; 1930-31, Rs. 60 to 50 1931-32, Rs. 50 to 40. Similarly, according to our information, a guava garden that would have fetched five years ago from a pre-harvest contractor anything between Rs. 600 to 800 for the year, would hardly fetch Rs. 200 to-day.

With regard to general seasons of high and low prices it may be observed, in the first instance, that the important holidays of the various communities such as Divali, Moharrum, Puppety, Christmas etc. have an important effect on prices, which may, in the case of wholesale prices, be seen so early as even a fortnight before the commencement of the holidays. The big Hindu fast-days also—especially the Ashadhi and Kartiki Ekadashi and the Mahashivratra—affect prices temporarily. Apart from such factors, the price statistics show a general inverse relation of price to supply.

TABLE X

Weekly Prices of principal fruits during the year 1931-32 at the Bazar Market, Poona.

Months.	Holidays, Festivals &c.	Serial No. of the week (commencing with 1st August 1931)	Bantras		Mosambis		Figs		Guavas		Mangoes		Papayas		Bananas	
			Whole-sale Price per dozen.	Retail Price per dozen.	Whole-sale Price per dozen.	Retail Price per dozen.	Whole-sale Rate (seers per Re.)	Retail Price per seer (2 lbs.)	Whole-sale Price per Hare (Basket) of 376 fruit	Retail Price per dozen	Whole-sale Price per Count of 318 fruits	Retail (Number of fruits to be had per four-anna-piece).	Wholesale Price per Nanna of 20 fruits	Retail Price per fruit	(Son-Mhashelli or Jun-nari)	'Kali' or Mhashelli
August 1931	{	1	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	seers.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.	Rs. a. p.
		2	0-5-0	0-9-0	0-5-0	0-14-0	...	...	1-12-0	0-4-6	...	...	1-15-6	...	0-3-0	0-3-0
		3	0-6-0	0-9-0	0-5-0	0-12-0	...	...	2-2-0	...	...	...	...	...	0-3-0	0-3-0
		4	...	...	0-4-6	...	...	...	2-4-0	...	...	...	...	...	...	...
September 1931	{	5	...	...	0-6-0	0-9-0	...	...	...	0-3-0	...	...	0-4-0	0-3-0	0-3-0	0-3-0
		6	...	...	...	...	...	...	...	0-3-0	...	...	1-12-0	...	0-2-6	0-2-6
		7	...	...	...	0-6-0	...	...	...	...	...	...	...	...	...	...
		8	...	...	...	...	...	...	...	...	...	...	...	...	...	...
October 1931	{	9	...	...	...	...	...	...	...	...	...	...	...	...	0-3-0	0-3-0
		10	...	...	0-5-0	0-9-0	...	...	...	0-4-6	...	...	...	...	0-3-0	0-3-0
		11	...	...	...	0-9-0	...	...	...	...	...	...	...	...	...	...
		12	0-9-0	...	0-5-0	0-9-0	...	...	2-0-0	0-4-0	...	...	1-13-0	...	0-3-0	0-3-0
November 1931	{	13	...	...	0-5-0	0-9-0	...	...	1-12-0	0-4-0	...	...	1-11-0	...	...	...
		14	0-10-6	...	...	...	...	...	...	...	...	...	...	...	...	...
		15	0-7-0	...	0-5-0	60-9-0	...	...	1-8-0	...	...	...	...	...	0-3-0	0-3-0
		16	0-7-0	1-0-0	0-7-6	60-9-0	...	...	2-0-0	...	...	...	1-11-0	...	0-3-0	0-3-0
	{	17	...	...	0-7-0	0-12-0	...	...	1-12-0	0-6-0	...	...	2-2-0	0-2-3	...	...

Months.	Holiday, Festival &c.	Week	Santaras			Mosambis		Figs		Guavas		Mangoes		Papayas		Bananas	
			Wholesale Price per dozen	Retail Price per dozen	Wholesale Price per dozen	Wholesale Price per dozen	Retail Price per dozen	Wholesale Rate (seers per Re.)	Retail Price per seer (2 lbs.)	Wholesale Price per Hara of 375 fruits	Retail Price per dozen	Wholesale price per Count of 318 fruits	Retail (Number of fruits to be had per four anna-piece)	Wholesale Price per Nama of 20 fruits	Retail Price per fruit	(Son Kel)	Kali or Mhashe- li or Jun- nari
May 1932		40	Rs. a. p. ...	Rs. a. p. 0-12-0	Rs. a. p. ...	Rs. a. p. 0-12-0	Rs. a. p. 0-12-0	3 3/4	6	Rs. a. p. ...	Rs. a. p. 0-5-0	Rs. a. p. ...	Rs. a. p. 6	Rs. a. p. ...	Rs. a. p. ...	Rs. a. p. 0-3-0	Rs. a. p. 0-3-0
		41	...	0-12-0	...	अनावार 0-12-0	...	4	5	...	...	...	5	...	...	0-3-0	0-3-6
		42	...	0-12-0	...	अनावार 0-12-0	...	6	4	...	...	...	5	...	...	0-3-0	0-3-0
		43	...	0-12-0	...	अनावार 0-12-0	...	6	3	...	0-5-0	...	5	...	...	0-3-0	0-2-6
June 1932		44	...	1-0-0	...	अनावार 0-12-0	...	6	4	...	...	...	8	...	...	0-3-0	0-3-6
		45	...	1-0-0	...	अनावार 0-12-0	...	6	4	...	...	...	...	...	...	0-3-0	0-3-0
		46	...	1-4-0	...	अनावार 0-12-0	...	8	4	...	...	...	8	...	...	0-3-0	0-3-0
		47	...	1-0-0	...	अनावार 0-12-0	...	10	3	...	...	...	8	...	...	0-2-0	0-3-0
July 1932	Ashadhi Ekadashi (first)	48	...	1-4-0	...	अनावार 0-12-0	...	...	3	...	...	...	8	...	...	0-3-0	0-3-0
		49	...	1-0-0	...	अनावार 1-4-0	...	...	4	...	...	...	...	...	...	0-2-6	0-3-0
		50	...	0-14-0	...	अनावार 0-12-0	...	...	3	...	...	...	8	...	...	0-3-0	0-3-0
		51	...	1-0-0	...	अनावार 1-0-0	...	...	...	1-8-0	0-6-0	...	...	...	...	0-3-0	0-3-0
	Ashadhi Ekadashi (second)	52	...	0-12-	...	अनावार 0-12-0	...	...	...	...	0-5-0	...	...	...	...	0-3-0	0-3-0

a—the crop of the new season. b—the crop of the previous season.

The prices are high at the beginning of the season and tend to fall rapidly or slowly as supply increases and again recover somewhat towards the end of the season. It should be noticed, however, that this recovery may not be considerable, and there may even be a fresh fall as, in a number of fruits, the quality of the fruit at the end of the season is distinctly worse than the average. This happens notably in the case of figs. Another factor to be taken account of in considering the statistics of prices is the availability of other fruits in the market. This factor counts especially in the case of such fruits as guavas and bananas. Further, while a very high scarcity price may be paid at times of low supply or at the beginning of the season for such fruit as figs and oranges, the upper limit to prices is comparatively much lower for guavas or bananas. All these factors would be observed in detail, if the above price table is studied in relation to the import statistics and the information about fruit seasons.

A further general characteristic about the retail prices of fruit is their remarkable steadiness for comparatively long periods of time, while the wholesale prices are seen to be much more sensitive to fluctuations of supply etc. It should also be remarked that while such factors as the advent of a big holiday affect wholesale prices considerably in advance, this is not to be found in the case of retail prices. It is unnecessary for us to enlarge on this topic; neither can we do this to any considerable extent with the meagre data available to us.

(vii) *The Export of Fruit* :—We have no information available to enable us to frame a quantitative estimate of the export of fruit from Poona district. We have at one place above given rough figures about the export of oranges as estimated by an important "hundekari". As to the places to which the export takes place, some information is available. We had arranged, for a few random days in the year, for our investigator to visit the parcel office at the Poona railway station where fruit consignments were booked and to take down all the details of the day's booking. From this a certain amount of information was obtained about the various places to which fruit was consigned from Poona. It was not possible for us to do this for the various smaller stations in the district. A good deal of general information was also obtained from growers and merchants

who replied to our questionnaires. The general results of these inquiries are summarised below; but it is impossible to indicate the measure of accuracy—especially with regard to the relative importance of the various markets—of the information thus collected.

In the case of bananas grown in the vicinity of Poona city, the market is clearly the city itself. Of those produced in the Purandhar taluka—more especially at Walha—the Poona city market takes up only about a quarter of the total. It does this chiefly in the seasons when Junnar production is low. The rest of the Purandhar production is consumed locally in the country-side. Of the Junnar production which is by far the largest, a prominent khotidar estimated three quarters as being consigned to and sold in Poona. The remaining quarter is exported to places like Ahmednagar, Sangamner, Newase &c. in the Nagar district. There is thus in this case a considerable change since the eighties when the Gazetteer recorded considerable export to Bombay.

According to the general information figs, grown in that portion of Purandhar and Haveli talukas which is to the west of the Divaghat-Saswad line and whose access to the Poona market lies via the Babdeo or the Katraj ghats, are sent very largely to the Poona market. Almost three quarters of the production of these centres finds, it is said, its way to Poona. On the other hand, the fig producers in that area which has easy access to Hadapsar station via the Diva ghat or to stations on the M. S. M. Rly., tend to send a large proportion of their produce to Bombay and other centres in the country and only a small part of it to Poona. This, though the general practice, is not an invariable rule. There are villages like Pimple, south of Saswad, which send their figs in truckloads direct to Poona via Diva and Hadapsar. The import statistics show that almost as large quantities come through the Hadapsar naka as through the other two important nakas. But the area under figs, lying on the Diva Ghat route and to the South and East of it, is very considerably larger than that commanded by the Babdeo Ghat and Katraj Ghat routes. It is not possible to establish any definite proportion; but it may be stated that Poona is for figs a very much more important market, than it is for the other fruits e. g. Poona district oranges or guavas. On a very rough estimate it may be said, that of the total fig production, about half goes to Bombay; while of the remaining half, more than 80 p. c. is sent to Poona and

the remaining to other centres. Figs plucked ripe cannot stand a long journey; hence the chief markets for them, other than Bombay and Poona, lie in the south. The most important of these are such towns as Belgaum, Hubli, Gadag and Kolhapur on the M.S.M. Rly. and Sholapur and Hyderabad on the G. I. P. Rly. A certain number of fig shipments are also made to Madras and such other cities on that route as Cuddappah and Bellary. Figs for the purpose of these shipments are plucked in a half ripe condition only.

For guavas of the Poona district the only important markets are the cities of Bombay and Poona; and of these two Bombay is overwhelmingly the more important. It was estimated by a prominent grower that Bombay took more than nine-tenth of the total production and Poona less than a tenth. It was also estimated that nearly three quarters of the total production finds its way to Bombay direct; a quarter comes to the Poona market, the bulk of it being reconsigned to Bombay.

Grafted mangoes of high quality are not grown in the Poona district on any extensive scale, and the Poona production is chiefly of country ungrafted mangoes. Of these, however, there are certain celebrated high quality varieties. The high grade fruit of these varieties from the neighbourhood, for example, of Saswad goes mostly to Bombay. The bulk of the ordinary production from the Purandhar area goes direct to the markets to the East such as Sholapur, Pandharpur etc. The other important mango producing areas are the valley of the Mutha, west of Poona, and the neighbourhood of Khed-Shivapur. Most of the produce of these regions is consigned to Poona in the first instance, but a very large portion of it—estimated at nearly three quarters—is reconsigned to other centres notably Sholapur and Pandharpur.

We have given in another place above an estimate by a prominent "Hundekari", of the export of oranges from the Poona district. It would be seen from these figures that a little over a half of the total production in Poona District of oranges (mosambis and santras) goes to Bombay, Poona city retains only a small portion of the total, say, only a twelfth to a fifteenth; while most of the remaining portion is sent out of the District. There is a very wide market throughout the country for both santras and mosambis. There seems to be, however, a distinct preference in some districts for mosambis and in others for santras. In

the markets in the Gujarat districts—especially in Ahmedabad and Surat—it is the mosambi that is favoured and very little Poona santra goes to these places. Poona mosambi has also a fair market in Berar. On the other hand, the mosambi does not seem to command any sale in the Punjab and U. P. markets and in Calcutta. The most important of the Punjab markets for Poona santras are, of course, Lahore and Amritsar; but santras are sent to even smaller towns such as Ludhiana, Ambala etc. In the United Provinces, the places chiefly mentioned in this connection were Agra, Lucknow and Meerut. Bombay absorbs both mosambis and santras and so do the markets to the south. The chief Southern markets are Sholapur, Hyderabad, Cudappah, Madras etc. on the direct Poona Madras route, and Kolhapur, Belgaum, Hubli etc. on the Poona-Bangalore route. Nothing can be said about the relative importance of these markets. We are in utter statistical darkness; the railways publish no information on the point and are even unwilling to let any one else extract it from their records; and there is nowhere any market intelligence service. The result is that there is very considerable lack of knowledge about markets even amongst dealers. This is best illustrated by a concrete instance. There was, we were told, an important Nasik wholesaler who used formerly to come to Poona during the months, June to September, and consign oranges on a large scale to outside centres. He was, however, careful not to consign them directly to the ultimate destination, but sent them in the first instance to his agent in Nasik. He did this, of course, in order to keep secret the destinations, as well as the names of dealers in these places from his competitors.

For Poona pomegranates the Bombay and the Poona markets are of almost equal importance. Poona pomegranates are of a very inferior quality; and there is, therefore, little export of them to outside centres except a few towns in the south. In Bombay City, the imports of pomegranates other than those from Poona are received from N. Gujarat—especially Dholka, the North-West Frontier Provinces, Baluchistan and Afghanistan, and there are some imports of the famous Muscat pomegranates. All of these imports are, however, of a quality superior to that of Poona. Further, while the main season for the Poona pomegranates is during the months, August to November, the imports from other parts usually begin only in the month of October.

There is even less information available on the question of competition in the various markets with Poona fruit. So far as the Poona City market is concerned, it would be seen from Table VI, that the outside imports which would, in the large majority of cases, be obviously by rail, are important only in the cases of mangoes, lemons, grapes, and bors. Grapes are grown only in a small quantity in the District and the outside supply is chiefly from Nasik. The imported bors are of a variety considerably superior to the local product—which is almost a wild fruit. The imported mangoes also do not directly enter into competition with the Poona district mangoes. The mango import streams are two: very high quality grafted mangoes from the Konkan districts—these come in a little earlier than the local crop—and second quality grafted mangoes and such special late varieties as Totapuri and Neelum from Mysore State and the Madras Presidency. The difference in prices of these and the country ungrafted mangoes is enormous; and the competition between them can only, if any, be indirect. It is not known what type of competition the Poona country mango has to meet in the markets in the Sholapur district to which it is chiefly sent. The Poona district bananas are mostly locally consumed. In Poona, there is little import of bananas from outside the district; and it is unlikely that the Junnar bananas meet with much competition in the Ahmednagar district markets, to which a portion of them are consigned. Of figs, Poona has a virtual monopoly of production; and no other centre competes with it in either Bombay, Poona or other markets. The Poona guava is an inferior fruit; and none of it reaches the quality market in Bombay which is the Crawford market. It does not, therefore, enter into competition with the superior fruit imported into Bombay from the Central and the United Provinces. There is however, a considerable acreage under similar inferior fruit in the adjoining districts of Nasik, Ahmednagar and East Khandesh¹ and it is obvious that the Poona fruit must meet the competition of supplies from these sources in the Bombay market. With regard to oranges, Poona used to be apart from Ahmednagar, the only important producer in the Bombay Presidency. Prof. Patil's bulletin does not show the acreages under mosambis and santras separately, but it is understood that the total orange acreage is mixed in the Ahmednagar district, much in

¹ Patil op. cit. p. 46.

the same way as in Poona. Ahmednagar produce is, therefore, directly competitive with that of Poona in the Bombay market and possibly in the other distant markets also. An even more serious competitor to the Poona santra is the newly increased production in the Khandesh Districts and the neighbouring portion of the Nizam's Dominions. Till about ten years ago, the Bombay market was dominated in santras by the famous Nagpur crop. Of late years, however, the planting of orange orchards has been very rapid in Khandesh and to-day the bulk of the santras in Bombay city market are of Khandesh origin. The imports from Nagpur have now become negligible. Thus Poona santras have to compete in Bombay chiefly with the plentiful Khandesh supply and Poona mosambis with the exports from Ahmednagar district—the chief centre of production in that district being Rahuri. The harvesting season in the Ahmednagar District is the same as in Poona District. The santra season in Khandesh is chiefly from October to May; and this may diminish in some measure the competition, in the Bombay markets, of this source of supply with Poona district production.

CHAPTER III.

Distribution.

The main object of our investigation was to study in detail the marketing organisation of fruit in the Poona district and to suggest possibilities of reform. The various ways, in which and the various agencies through which the fruit produced in the district gets distributed to the markets and ultimately reaches the consumer, form the most important aspect of our investigation. These methods and agencies are diverse and differ from fruit to fruit and from area to area. We shall attempt a description of them by beginning with the grower and describing each intermediary who may come into the picture, at the stage he comes in, until the consumer is reached. By doing this, we hope to avoid any unnecessary repetition. It should be noted that throughout this report we have used, to designate various groups of middlemen and various practices, vernacular terms that are locally current, giving in parenthesis their English equivalents. The English equivalent is sometimes difficult to find as local conditions are very peculiar.

(i) *Khotidar* [*Pre-harvest contractor*] :—This difficulty is specially felt in the case of the widely prevalent practice in this district of growers to sell their standing crop. The class to whom the standing crops are sold are called “Khotidars”. We translate the term as pre-harvest contractors; though an English equivalent for this may be the ‘Country buyers’ which term we find used in this sense also in the English Ministry of Agriculture’s Report¹ on fruit marketing.

The extent to which standing fruit crops are sold in this district is very wide and this is not surprising having regard to the fact that there is an enormous number of very small growers of fruit.² The khotidars in most areas are a small and a highly specialized group of local merchants who have had considerable experience in the handling of fruit for the market.³ The small grower, on the

1 Economic Series, No 15, (1927), p. 47.

2 For a very close parallel to this system Cf. “Marketing of Calhoun country apples.” University of Illinois, 1928, pp. 595-96.

3 In a small number of cases it was observed that a few growers operated as Khotidars, buying the standing crops of other growers even though in some cases they may have sold their crops to others on “Khoti.”

other hand, suffers from many handicaps. His orchard is usually too small to permit him to do his picking, packing and marketing economically. He also has not the funds available at the end of his agricultural operations and when fruit begins to mature, to purchase the baskets, boxes etc. and defray the transportation expenses. It is again quite likely that he is desperately in need of money for meeting recurring charges such as interest on debt, and is very glad to get a substantial lump sum immediately. He is also able to pass on to the khotidar a number of risks. These risks are natural risks, such as those connected with the ultimate output, of inclement weather, of insect-pests and fruit diseases; there are other risks viz., those of theft, fire or bad debts and lastly the risks connected with the fluctuations of prices. All these considerations, therefore, influence a large number of especially the smaller growers to sell, wherever possible, the standing fruit crop to the khotidars. There is also the additional consideration that "Dalals" i. e. commission salemen usually give better terms to substantial khotidars who can regularly consign fruit to them than to the very small cultivators.

The substantial growers in some parts of the district undertake the work of marketing the fruit themselves, but even in their case the practice differs widely. It is difficult to say any thing definitely with regard to the prevalence of khoti, but the following general data have been made available to us during the course of the investigation. The system is generally prevalent through all fruit, but is specially prominent in two cases, viz., the growing of citrus fruit in Purandhar taluka and bananas in Junnar taluka. In the case of bananas in Junnar and the bananas at Walha in Purandhar taluka, it is a modified type of khoti that is most common. In the case of bananas in this district, it is not the standing crop that is sold. The agreement is more in the nature of a price agreement. The khotidar does not buy up the produce of the whole garden or plantation for a lump sum. He merely agrees to take all the bunches that may be produced at a price which is fixed in advance. The price is usually fixed per 'hundred' bunches—which, in practice amounts to 105 bunches. The khotidar usually undertakes to accept all bunches, whether the fruit is large or small, produced in the garden at the average rate fixed. This contract is generally entered into at the beginning of the season i. e. towards the commencement of the monsoon. The removal of the bunches from the garden is

carried out by the buyer. There is also current a modified form of this contract by which the buyer agrees to buy, not the whole produce of a garden, but a certain number of bunches during the season from a cultivator. It will be observed that in this banana contract the production risks are not shifted on to the buyer, but only the price risks. This is not a case of outright sale but only that of future trading. It is reported that there are between 5 to 10 buyers who buy up the whole banana crop of the Junnar taluka in the above manner.

In the Purandhar taluka orange crops, there is current a variation of the normal khoti practice. This is that the contract with the buyer runs, in some cases, not for one year but for a number of years. It is not so much a standing crop in this case that is sold, as the whole produce of an orchard for a number of years. This duration differs from garden to garden, but sometimes it may be for as long as ten years. It is remarkable that even very large growers in these parts dispose of their gardens in this fashion and the number of growers who market their own fruit is extremely small.¹ This no doubt enables producers to specialise in the planting of orchards and thus extend the area under fruit; but doubts have often been expressed as to whether a really fair price is obtained in these long period contracts by the growers, and whether it would not, on the whole, be much more profitable, especially for the larger growers, to devote some part of their attention to the marketing processes. There are at Saswad, it is said, about eight buyers, called on this side 'Bagwans,' whose annual business together amounts nearly to Rs. 4 to 5 lakhs. Each of them is supposed to have contracted or to contract annually for the produce of nearly 30 to 35 thousand trees. At Jejuri there are three or four other Bagwans. The dealings of these Bagwans are mostly in santras and mosambis. They also deal in mangoes; but we have come across no case of a mango orchard being taken over by a pre-harvest contractor for more than a year.

In direct contrast to the position of orange orchards in Purandhar is the position in Shirur taluka. Here in the concentrated area in Talegaon-Dhamdhere and Shikrapur, we were informed that the sale of the standing crop is an exception and not the rule. In this

¹ We have no information as to the extent to which the long period sales of crop are common.

area there is a fairly large number of substantial orchards and the growers are much more accustomed to send their fruit to the market on their own account. Khoti is not entirely absent; and it was said, that in the case of many of the smaller gardens—having, say, about 500 trees or thereabouts—the fruit is disposed of as a standing crop. But this is not the case with the bulk of the crop in this area.

In the case of figs, the sale of standing crops is not so common as in other cases. One of the most important reasons for this seems to be the fact that buyers are reluctant to buy the standing crop of figs. This reluctance seems to have become particularly marked since the prevalence in these parts of the rust disease. Thus even though the smaller cultivators may prefer to dispose of the standing crop, they cannot always do this. They have, therefore, in a number of cases to ship their produce to the market themselves. It should be noticed that there has sprung up, as a result of these conditions, a class of country buyers in figs, who operate in the tract during the season and buy up the fruit locally for consignment to distant markets.

The normal type of the khoti system is the sale for a one year period of the crop of an orchard to a pre-harvest contractor. This is the type to be found in guavas, pomegranates, papayas, mangoes and oranges. The size of the operations of these contractors varies considerably. The mango khotidars on the Khed-Shivapur side are, for example, much smaller men than the Bagwans of Purandhar. We were told that there were in Khed-Shivapur nearly twenty-five of these contractors whose individual turnover did not on an average exceed Rs. 1200 p.a. It is, of course, understood that in the case of all the fruits there are a certain number of large growers who do not sell the standing crops. The business of the pre-harvest contractors is a specialised one; and it is significant that some contractors from Saswad were reported to have extended their operations to the Khed taluka, as new orange orchards had come into existence in that area. The specialisation consists chiefly in having a thorough knowledge of market conditions and in having built up a goodwill with the city dalals. The business also requires a certain amount of command over capital resources.

We may now describe briefly the terms on which the standing crop is usually sold to the contractors. We shall begin

with the terms regarding the care of orchard etc. In the case of bananas, as it is not properly the standing crop that is bought, the only service undertaken by the buyer is the cutting of the bunches at the proper time and packing and consigning them to the market. In the other cases, those of khoti proper, there are two essential operations that always devolve on the buyer; these are the watching of the maturing crop and the picking of the fruit. In the case of figs two types of contracts are current. In one of them the contract is entered into only when the fruit is fully developed, and the danger of loss due to the rust disease over. In this case the buyer attends only to the watching and picking of fruit. The other type of contract is entered into immediately on the appearance of the fruit on the tree. In this case the buyer has special additional responsibilities. These are the care and repair of irrigation channels, the digging up of the land in between the trees, the removal of weeds and the stirring up of the surface soil at suitable intervals. The grower, on the other hand, is responsible only for the lifting up of the water from the well and supplying it to the buyer at an interval of 8 to 10 days, for the whole period from the appearance of the fruit on the trees to the harvesting of it. The grower has also to supply a certain fixed quantity of farmyard manure per tree. The contract in the case of guavas is very similar to this. The grower is responsible for the supply of water and manure, and everything else including the bending of the trees is to be done by the buyer. It seems that in the case of papayas the buyer does nothing but watching and picking, leaving all the agricultural operations to the grower. The question of agricultural operations during the season does not arise with the country (ungrafted) mangoes which are the chief mango product of the district. Here the only thing to be done is watching and picking and that is done by the buyer. There seems to obtain no uniform practice in this matter in the sale of standing crops of orange orchards. It depends greatly on the price per tree, at which the bargain has been struck. The pre-harvest contractor may pay a somewhat lower price and may take upon himself the responsibility for all items pertaining to the irrigation and the care of the orchard; he may, on the other hand, pay a somewhat higher price and do nothing more than watching and harvesting.

The payment of the contracted purchase price by the buyer usually takes place in two or three instalments. An instalment

is paid at the time of entering into the contract. Most usually, this seems to be about half the contract price. It may, however, be less,—a quarter, a third or a fifth—and in some cases, especially in guava orchards of recent years, it is reported that no advance instalment of this type may be paid at all. This reflects, perhaps, the poor bargaining position held by the guava growers of this district at the present time. The remaining amount of the purchase price is paid in instalments through the harvesting season. There are no general rules about these matters. The whole contract price may be paid even before the crop is half-picked, or the payment may be delayed till the end of the season. In times of depression like the present, there is naturally a tendency for the contractor to demand and to obtain easier terms of payment and to wait till he has himself disposed of the crop. In the case of long term bargains—those of orange orchards in Purandhar Taluka for five or ten years—the terms of payment are usually as follows. Of the total sum fixed for the whole period an amount varying from a quarter to a half is paid as lump sum down at the very beginning of the period, and the rest is spread over a series of yearly instalments.

The time when the khoti contract is entered into is also not uniform. In fruits like oranges where there are nearly three cropping seasons, the contract may take place at any time during the year, but is usually for the calendar year, 1st January to 31st December. In the case, however, of such single season fruits as figs or mangoes, the standing crop is usually bought after the fruit has grown to about half its normal size. In the case of mangoes, there are a few buyers who buy crops when the tree is in blossom, but this is usually reckoned a very speculative undertaking. We tried to make enquiries regarding the extent to which these contractors advanced sums to the growers and thus kept them bound up to sell the gardens to themselves. We find that such indebtedness, on the part of growers to the class of contractors, was not at all common. In a few cases, such advances may sometimes be made for agricultural operations by contractors locally resident; but as a general rule, it does not seem, as if, advances are made by buyers to growers, on a scale likely to influence their decision regarding the sale of the standing crop at all, or the sale of it to a particular buyer.

This system of selling the standing crop is widely spread in the Poona district. How widely spread it is—is, however, difficult to

estimate. Many of the substantial growers who replied to our questionnaires reported that they often sold their crops standing. But it was observed that in a large number of cases no uniform practice was followed. While in some years the standing crop would be sold, in others the grower would himself consign the produce to the markets. Under adverse circumstances such as the prevalence of a fruit-disease or falling prices, pre-harvest contractors may be discouraged and may not come forward with offers tempting enough and growers may be led to take the marketing risks on themselves. Further the smaller growers entirely unacquainted with marketing conditions, or with no time to spare to look after the marketing details, do in a larger measure close with the offers of the contractors than the bigger growers. The advantages of the sale of standing crops to such growers are obvious. There are a few disadvantages to be balanced against these. Where some of the agricultural operations are to be performed by the buyer and especially in the case of long leases, there is the danger either of neglect of the orchard or of the land being exhausted. On this account, the most satisfactory system is for the grower himself to undertake all these operations. There is a further danger of the branches of the trees being damaged by careless picking etc. This is minimised when the agents of the grower are also present in the orchard at the time of picking, as they usually are when the agricultural operations are to be performed by the grower. But the most serious risk that the grower runs in the sale of his standing crop, is that of default on the part of the buyer. The buyer may agree to a certain price in the beginning, but may not really pay the whole of it. At the time of our enquiry, it was apparent from the replies to the questionnaires, that the fear of default was generally entertained to some slight or considerable extent. The whole transaction is in its very nature highly speculative, and the growers seemed conscious that if the bargain turned out to be a bad one from the point of view of the contractor, they would have to forego some portion of the price fixed upon with him. In some tracts, further it was reported that these contractors were men of no substance and were enabled to trade only by means of the advances they had obtained from commission salesmen in Bombay or Poona and that, therefore, there was no guarantee that the whole amount contracted for would be received from them. This possibility of default by the buyer is not a special feature of the recent years of falling prices. But as yields and prices of fruit always fluctuate, the

buyers do, it is reported, usually default to some extent, whenever the season is specially unfavourable to them. It will thus be observed that the grower is not able to pass on the risks wholly to the buyer even in the case of the sale of standing crops. Though, thus, the complaints of these occasional defaults were fairly general, and, in some of the cases reported, the proportion of the default substantial, in no case was it reported that the grower took any action to recover his dues. The growers all deplored the tendency, but seemed passively to accept it as part of the bargain. As a fact, the risks in buying the standing crop, when the fruit is only half its normal size, are pretty heavy and the pre-harvest contractors, as a class, cannot afford to bear these risks. In a specially bad season, a part of them are, therefore, passed on to the grower and a large part to the commission salesman at the other end, who usually finances the pre-harvest contractors.

4) Another general complaint, made by growers regarding the class of khotidars, was that they never gave any agreement in writing to the growers. The growers, on the other hand, usually passed a receipt in writing for the first instalment, in which the total purchase price and the period of the contract were specifically mentioned. The other conditions of the contract are usually not reduced to writing. This leads to the position of the grower being specially weak in case of dispute. The abuse can be easily remedied by organised action on the part of growers and it is highly desirable that a proper agreement form¹ widely applicable should be drawn up and buyers asked to sign it as well as the growers. The District Co-operative Institute in consultation with the Agricultural Department would be best fitted to undertake this work.

(ii) *Country Buyer*:—The country buyer, in the more usual sense of that term, is very rare in this district. There are no organised markets or auctions in the country areas; and no facilities of the type of the auctions in producing areas, established, for example, in the West Midlands area in England, are available. The grower has usually only two alternatives—selling the standing crop to a khotidar, or consigning it to a commission salesman in a big city market. There were, however, noticed by us a few exceptional cases, in which

1 Cf. the different types of contracts discussed in the Report on Marketing of Calhoun County Apples (University of Illinois, Agri. Expt. Sta. Bulletin No. 312, 1928).

a class of country buyers, who buy up the fruit from a number of small growers, assemble and pack it and consign it to city markets for sale, has come into existence. This class is to be noticed only in the Purandhar Taluka and chiefly in the case of figs, though there are also a few buyers of this type, of bananas at Walha. These country buyers are most prominent at centres like Waghapur or Pimple. Though there are no regular markets at these centres, the small growers of the surrounding villages bring in daily small lots of fruit to the depots¹ of these country buyers and sell these at the price current in the place for the day. It is supposed that this price bears some relation to the prices obtaining in the large consuming centres ; for, there are always some growers in these centres, who consign their produce to Poona or other places. And though there is no organised market, and the number of buyers in any one of these places is small, there is bound to be some competition as amongst them, and the growers would know what prices are being offered by the various buyers. These country buyers are usually local residents and are a number of times growers or khotidars in addition to being fruit merchants in the season. When a country centre expands, it may, however, come to possess a rudimentary market. This, it was reported, has recently happened at Pimple. Here, during the fig season, the number of country buyers is as large as 25, some of these being traders from outside. With this large number of buyers, sale by auction of each lot has lately begun to take place.

(iii) *Hundekari* [Forwarding Agent] :—In most cases, when the grower or the pre-harvest contractor has to consign his produce to a distant market, it passes through the hands of a forwarding agent, called in these parts a 'Hundekari.' The services performed by a hundekari are of a strictly limited character. He does neither pack the fruit, nor usually transport it by road. So that, when the Poona district fruit is sent to the Poona City market, this is done without the intervention of the hundekari ; for, most of the Poona district fruit comes to Poona by road. It is only at the railway station that the hundekari steps in. He takes charge of the packages of fruit from the cartman who has brought them, and takes all the steps necessary to send them to the commission

¹ In the case of bananas, it is the buyers who go from garden to garden and daily buy up the quantity they require.

salesman in the city markets. The services performed by him thus are: booking the fruit and loading it in the railway van, attaching labels to the packages, dispatching the railway receipt to the consignee, paying the railway charges and sometimes the charges of the cartman or the carman. In the railway receipt, it is usually the name of the forwarding agent or hundekari that is put down as the consignor. For these services this agent makes a charge which comprises of two heads: (i) forwarding charges (inclusive of portage) and (ii) postage. The forwarding charges are usually 6 pies per small basket, such as that used for packing santras, mosambis or pomegranates and nine pies for each box or bag or for a large basket of the type used for sending guavas to Bombay. These are normal charges. They are, however subject to slight variations. In the first case the charges may vary from $4\frac{1}{2}$ pies to 9 pies, and in the second case it may sometimes be as high as one anna. The charge made for postage is one anna and half, for each railway receipt that the hundekari has to send. This is usually one for the daily consignment to a dalal.

There used to be nearly six or seven of these forwarding agents doing business at the Poona railway station, and a number of others at the smaller stations in the district. The number has decreased recently; and there are now only three important hundekaris at Poona. The bigger hundekaris operate through their agents at all the more important stations. The hundekaris have also, at each station, arrangements with local coolies for handling all the packages, received by them, at the rate of so much per hundred packages, the usual rate being As. 8 to 12. While the hundekari's main source of income is the forwarding charge, he makes a certain amount of profit out of the postage charge also. The postage charge is supposed to represent the cost of a stamped envelope (in actual fact a stamped envelope costs 16 pies and not 18 pies which is the hundekari's charge). But as the hundekari handles goods not for one, but for a number of consignors, he has usually a large number of receipts to be sent to a place, especially to Bombay to which the bulk of the produce is sent. He, therefore, makes up the lot of receipts in a small parcel and sends them on to his agent in Bombay to be distributed to the various consignees at the place.¹ All

¹ If the hundekari operates at many neighbouring stations, he may even be able to collect the receipts from a number of different stations together.

the bigger hundekaris have their agents at this place. In the case of other cities, there are usually no such agents and the hundekari has to send the receipts in the ordinary way, through the post.

Not all consignors avail themselves of the services of a hundekari. Such consignors as the country buyers at Waghapur, who operate very near a railway station, would usually do this work themselves ; again some of the biggest Poona City wholesalers may, in re-consignment business, dispense with the services of the hundekari and get the work done by their own agents. But as a general rule, the growers, the khotidars and even the bulk of the wholesalers and commission salesmen send the produce through the hundekaris.

An alternative to the hundekari is, sometimes, found in the local station master in the case of the smaller stations in the district. Only un-officially, the station master may, in some cases, undertake much the same work as is done by the hundekari for, sometimes, a somewhat smaller charge. Indeed, it was freely alleged, that the hundekari himself has invariably to part with a portion of his forwarding charges to the extent usually of onehalf, at almost all the smaller stations, to the station-master and the porter. This is for no specific services performed, but only for smoothening the work of the hundekari. There have often arisen disputes between hundekaris and station-masters, because of this payment. This is, of course, an allegation, the truth of which it was impossible for us to investigate.

The hundekari never collects the amount of his bill from the grower directly, but always through the commission salesman at the other end. The hundekari sends his bill (in which the various items such as the carting charges, if any, the postage, the forwarding charges, and the railway charges may, or may not be shown separately,) to the commission salesman. The commission salesman when he has sold the consignment, deducts the amount of the hundekari's bill, before crediting the sale price to the consignor's account and pays it directly to the hundekari.

The nature of the services performed by the hundekari can be easily understood. For a grower or a country buyer, situated at a distance from the railway station, the need of services of this sort is obvious. But, even those situated near a railway station may not

find it possible to devote any part of their time to the business of consignment. The hundekari having specialised in the business and having his agents at most important points, can facilitate and quicken the transport of produce to consuming centres. Thus strawberries from Mahabaleshwar are brought down by contract carriers expeditiously to Poona, where the hundekari arranges for the payment of the carriers and the despatch of the fruit to Bombay; and it is received in Bombay and even sold at a small auction on the railway station, long before the railway receipts can reach the commission salesmen. This is because the hundekari has established connections with commission salesmen and their agents, with porters and with railway authorities, at various places. The same may be said of the despatch of figs, picked late in the evening in villages in Purandhar taluka, so as to reach the Bombay market at dawn. In both these cases the motor-bus services are arranged for, though not ultimately paid for, by the hundekari. Apart from this, the hundekari may be said to be responsible for partly financing the marketing operations. He meets in advance, on behalf of the grower, the whole of the railway and general forwarding charges; and, in a number of cases,¹ the road transport charges also. This he does at a time when the grower is especially short of funds, this being at the end of his agricultural operations.

The hundekari is confined in his operations almost entirely to railway transport. In a very few cases, such as that of the transport of figs from Saswad to Poona, does the hundekari take charge of the fruit at a place off the railway; but even this is for the purpose of collecting consignments and bringing them to stations for ultimate transmission by railways. Hitherto the transport by motor-lorries to places like Bombay is canvassed and arranged for directly by the road transport agencies themselves, and no intermediary between them and the consignors comes into the transaction. Neither have the hundekaris yet begun to explore the possibilities of this alternative means of transport of goods entrusted to them.

(iv) *Dalal* [*Commission salesman*]:—Almost all fruit reaching the Poona or Bombay markets is disposed of through the agency of commission salesmen. The commission sales-

¹ In the separate hundekari's statements which we were able to obtain from a number of Bombay sales accounts, the hundekari had paid the road transport charges in 29 cases out of a total of 83.

men daily receive consignments of fruit from their various clients, and dispose of the fruit usually on the same day either by private treaty, auction or some other method. It should be noted, however, that the commission salesman is expected to dispose of the fruit in the market to which it has been consigned. He has not the liberty of re consigning it to some other place. If he does this, it is entirely at his own risk and on his own account. Commission salesmen in Poona receive the fruit direct from growers or contractors, and not through the intermediation of a hunde-kari. The consignor or his agent brings the fruit to the market. The fruit is brought to the market in a variety of packages—baskets, boxes or sacks. Superior fruit, packed in baskets or boxes, is sold while in the containers; but other fruit is laid on the ground in heaps, which may sometimes be roughly graded.

The more important among the commission salesmen in Poona have some warehousing facilities, rented by them near the market. But as a general rule, this is not used for holding over the produce. It is chiefly utilised for storing such produce as arrives overnight and for repacking and consigning, in those cases in which the salesman acts also as a wholesaler. Produce once brought into the market is withdrawn only under exceptional circumstances, especially when the consignor is present and directs withdrawal.

Among the fruits coming to Poona City, oranges, figs, mangoes, guavas, pomegranates, lemons, papayas, melons etc. are all consigned to commission salesmen. Only in the case of bananas is the commission salesman not generally resorted to. Bananas from Junnar are usually sent direct to the depots of wholesalers in Poona City. In the case of the supply of bananas from villages in the neighbourhood of the city, the fruit is consigned to commission salesmen and sold by them by auction, in the same way as the other fruits.

The most common way in which the commission salesman disposes of the produce is by auction. The auction is conducted in separate parts of the market reserved for the Dalals. The auction is conducted here by each salesman on his own pitch. There is no separate auction floor and the auction is not closed to anyone. The lot of each consignee of each fruit is separately auctioned; and auctions are simultaneously carried on on the different pitches of the various salesmen. If the various packages in the lot of a consignor are of a widely different quality, they may

be divided into two, or very rarely even more parts, and these parts auctioned separately. The inferior grade and cull fruit is placed on the floor in heaps, while the upper layers of the baskets and boxes, in which the superior fruit may be packed, are exposed for giving the buyers an idea of the quality of the fruit. The contents of the various types of baskets and boxes of the higher grade fruit have, by usage, come to be more or less fixed and do not generally vary.¹

The auction may either be open or secret. In the open auction, any one among the group, surrounding the Dalal's pitch, may bid; and the produce is given away most commonly to the highest bidder. The secret auction is also conducted at the same place; and the bidders are usually the same persons. But in this case, the various bidders cannot know the bids of their competitors. A piece of cloth is thrown over the hands of the commission salesman; and each bidder in turn presses the salesman's fingers to indicate the nature of his bid (vide photograph facing p.65). There is a simple code by means of which the pressing of the whole palm or some of the fingers at a time and the indication of the joints on the fingers, are made to represent rupees and annas. This process goes on for some time; and ultimately the commission salesman decides to whom the lot is to be given.

Of the various fruits, oranges (mosambis and santras), pomegranates, mangoes, lemons, melons, guavas, custard apples, and papayas,—are all sold in the Poona City Market by auction. There is no fixed practice with regard to open or secret auctions; but as a general rule, secret auctions in the Poona Market are confined to the high quality produce. All ordinary or inferior fruit is invariably sold by open auction. Lemons, melons, papayas, custard-apples and mangoes (both country and grafted) are generally sold in an open auction. It may, however, occasionally happen in these cases of open auctions, that the course of an open auction may be interrupted and the auction turned into a secret one, by a prominent buyer who wants to make a secret bid and may make a secret offer to the dalal under the cloth. In the case of mosambis, santras and pomegranates, the ordinary or low grade fruit, heaped up on the floor, is sold by open auction; while the bulk of superior fruit, in boxes and baskets, is sold by means of a secret auction. It would thus be seen, that of the fruit sold by

1 For details, vide the chapter on the Preparation of Fruit.

auction, in the Poona market, a very large percentage is sold openly.

Among those whom we questioned regarding the merits of the system of open and secret auctions—growers and others—there was a small proportion definitely in favour of the adoption of open auctions everywhere ; while a large number did not seem to hold any definite opinions on the subject. There is a considerable apathy among the growers ; and many of them seem to think that as they or their representatives are not, in a majority of cases, present at the auction and have ultimately to depend on the honesty of the salesmen, it mattered little whether the auctions were secret or open. The important arguments advanced in favour of secret auctions are two. In the first instance, it is argued that the secret auction aids in fetching a higher price. Especially, it is said, in the case of the better quality fruit, a buyer, attracted by a particular lot, may quote a high price secretly, which he would not do, if, in the open auction, he finds the other bidders starting very low. This is not a convincing argument. For, it is not, as if, in a secret auction each man bids his maximum immediately. There are, in the secret auction, a series of rising bids by the buyers, just as in the case of the open auction. It is also a curious commentary on the higher price argument, that the buyers, as a class, also desire the continuance of the secret auction. The other argument advanced has greater force. It is, that, in the secret auction, it is not generally revealed who the highest bidder was ; and this leaves the commission salesman in a position to attach due weight to the credit-worthiness of the various bidders, without offending any one. That is, he is able to close the bargain with a regular buyer, who pays promptly and fully, even though his bid may not be the highest. For, it is notorious, that a considerable number among the buyers are very slack in paying and do not always pay the full amount of their bid. There is no denying that this may prove, at times, a distinctly beneficial aspect of the secret auction system. But this also means that there is obviously the possibility of the dalals unduly favouring certain buyers under this arrangement. It is therefore difficult to see what can be said in favour of the secret auction. Actuarially, the chances of determining a strictly competitive price are undoubtedly greater in the case of the open auction than the secret one. And the secret auction leaves the whole transaction too much at the discretion of the dalal.

While, in the majority of fruits, an auction is conducted for the disposal of each lot, in others a different mode of sale is adopted. This may best be called sale by 'private treaty.' The most notable instances of this, among the Poona district fruit, are guavas and figs. In both these cases no regular auctions are conducted. There is, during the season, a plentiful supply of each fruit; and the number of commission salesmen doing business is large. The fruit arrives, also, in a large number of small lots; the number of buyers—hawkers, retailers and consumers—is considerable, and the conditions do not then allow of an auction of each consignment separately. Sales in these cases begin in the early morning, by dalals, to buyers as they come up, according to the ruling rate of the previous day, allowance being made for the then existing conditions of demand and supply. An average rate thus becomes established for the standard quality, by a process of chaffering or higgling, with differences for variations from the standard. Continuous sales are proceeded with, at this rate, with occasional secret bids by big buyers for particularly attractive lots. As the morning proceeds, the early rate may change either way according to market conditions, or remain unchanged. The whole supply of figs, that comes to the Poona City market, is almost entirely locally consumed; and little is left over of the supply by noon. In the case of guavas, on the other hand, a very large portion of the Poona City market supply is reconsigned to Bombay. In this case, therefore, a large supply is left over, after the demands of the local hawkers, retailers and other buyers are satisfied. For this portion of the supply, the usual buyers are a number of wholesalers. The commission salesmen dispose of their stocks of guavas to these wholesalers; or in some cases, buy the fruit on their own account, and consign it to Bombay. In the case of these sales to wholesalers, there is usually no auction, the sale being effected by private treaty.

So much for the Poona district fruit. The most important among imported fruits are grapes from Nasik, and bors from Ahmedabad, and other places. In both these cases, the number of wholesale importers is very small; and the wholesale price is arrived at, much in the same manner as in the case of guavas and figs. Apples, peaches, chikus and other scarcer fruits are sold, by the very few importing wholesalers to a small number of select stall-keepers, mostly by private treaty, and occasionally by means of a secret auction.

For the services he performs, the commission salesman charges his principal, a commission, and also debits his account with a number of expenditure items, which he is supposed to have incurred on the principal's behalf. In a later chapter, we shall be concerned with the examination of certain statistical data, regarding the various items in the dalal's sales accounts. Here, we shall merely indicate the general nature of these charges and the actualities they represent. There are two ways, in which a commission may be charged by the commission salesman. ¹⁾He may charge it as a percentage of the sale price or levy a flat rate per package. ²⁾Or, in some cases may be found a combination of these two methods. In the Poona City market, the percentage system is widely prevalent in all the less important fruit, such as custard apples, papayas and melons. The actual charges vary somewhat, from one salesman to another; and they also vary, as among the customers of the same salesman. Big producers or contractors are able to obtain specially favourable rates for themselves from the commission salesmen. We give below some of the representative rates for various fruits, for which we were able to obtain information. In the case of custard-apples and melons, the prevailing rate seemed to be 2 As. per rupee of the sale-price, while in the case of papayas it was 1 anna. For the sale of ripe ungrafted mangoes also, the usual commission rate is 1 anna per rupee of the sale price. For the sale of oranges, pomegranates and guavas, the charge is in the form of so much per package; but this flat rate varies with the prices obtained, and works out, therefore, roughly, as approximating to the percentage system. We quote below certain typical instances, to illustrate this practice. When oranges are sold in heaps on the floor, the charge is on a percentage basis, usually at the rate of one anna per rupee of the sale-price; when in baskets, the commission would be one anna per basket, if the sale-price is less than one rupee, and two annas if it is one rupee or more; and a box would be usually charged a flat rate of 4 As. Similarly, one commission salesman gave the following schedule of his rates, for pomegranates:—

1 anna per basket, if the selling price was less than Re.	1-0-0
2 annas	Rs. 1-8-0
4 „	Rs. 3-0-0
8 „	Rs. 3 or more

The flat rate charged by this salesman for boxes is As. 4 per box.¹

For guavas, the usual commission charged is 1 anna per basket if the sale-price is less than 10 annas, $1\frac{1}{4}$ anna when it is between 10 and 12 As., $1\frac{1}{2}$ annas for prices between 12 As. and 1 Re., and $1\frac{1}{2}$ As. for every subsequent rupee of the selling price. In the case of figs and lemons, no commission is charged to the consignor; but it is charged, instead, to the buyer by the commission salesman usually at the rate of 2 As. per rupee. The only case of a pure flat rate charged in the Poona market, is that levied on cart-loads of unripe country mangoes. Here a flat rate of Rs. 2 per cart-load is generally charged by the salesman. It will be seen, that the commission charges are rather high, working out in most cases at between 7 and 13 per cent. It should be noted, that in Poona, empties are not supplied by the commission salesmen as in England and, that these percentages, therefore, do not contain any charge on their account.² Similarly, no such practice, as that of ordinarily charging a percentage commission, but descending to a flat rate at low prices, as is found in England was noticed by us in the Poona market³.

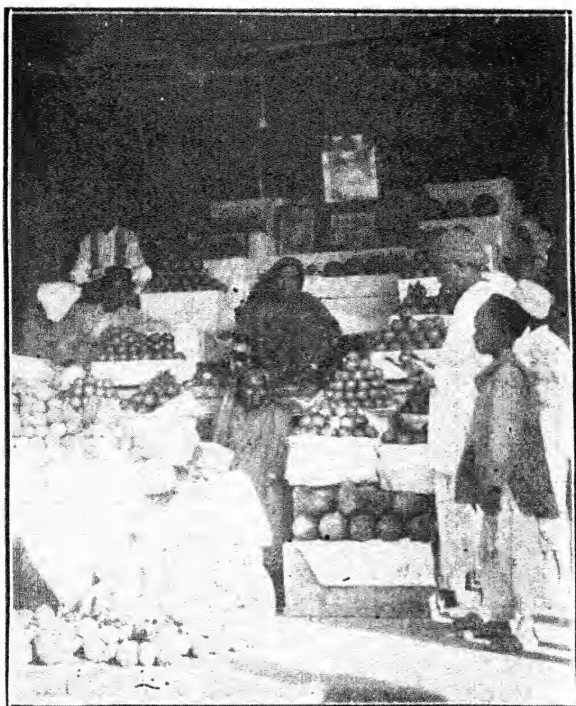
There are a number of items, other than commission, included in the accounts of sales submitted by the commission salesmen to their clients. These include charges paid by the salesman on behalf of his principal, charges for separate services rendered by the salesman, and also charges which are nothing more than extensions by the salesman of his commission. Of the first type are transportation charges and octroi. The produce comes into the city either by bullock carts or motor-buses; and a number of times, the commission salesman is asked by the consignor to pay the transportation charges. When this is done, the item is naturally included in the sales account submitted. The position is similar with regard to octroi. There are no market tolls, as such, levied in Poona; but there are municipal octroi duties levied on all produce coming into the city for sale. The carrier pays this at the octroi post, on the way; and the commission salesman may, on the instructions of his client, pay the amount to the carrier.

1 We found from actual sales accounts, that this salesman lowered his basket charge even to half an anna, if the price of the basket went below As. 8.

2 Cf. the Linlithgow Committee's Interim Report, p. 46.

3 Ibid p. 51.

Reay Market, Poona.



A retail stall inside the market building.

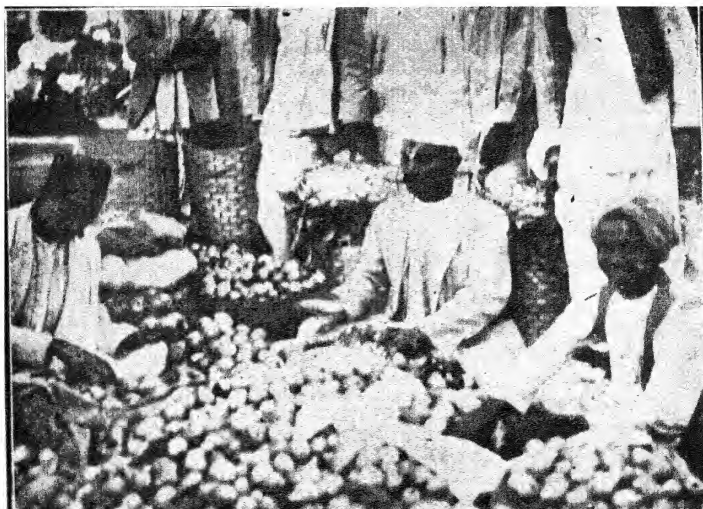


Various types of baskets used in the Poona fruit trade.

Reay Market, Poona.



A Secret auction of oranges.



**Guavas being sorted out for export.
(Baskets used for packing the same, at the back.)**

In the second category may be included charges for portorage, postage and a charge called *batta* or *kasar* i. e. a charge for money-changing. Portorage is the charge in respect of unloading fruit from the vehicle (bullock-cart or motor-lorry) and carrying it to the pitch or the warehouse of the commission salesman. There is no uniform schedule of these charges and it does not figure invariably in all sales accounts; and when levied, the charge differs widely, from commission salesman to commission salesman. We have even found accounts of sales, submitted by the same commission salesman to the same principal in respect of the same fruit, in which the charge varied on different dates in the same season. It is said that generally the portorage is charged at a lower rate or in some cases, not even charged at all, when the produce comes in a bullock-cart. For, the cartman does most of the business of unloading and arranging the fruit on the salesman's pitch for sale. When the produce comes in, through a motor-lorry, the portorage charge is invariably made. There is another charge of the nature of portorage, paid in kind, which naturally does not enter into the sales-accounts. There are various small services to be performed—such as arranging heaps and roughly grading them, or moving fruit for weighment etc., in which a number of persons about the dalal's pitch may help him. And the salesman rewards such services by giving a couple or more of inferior fruit from each lot or heap to such persons. The charge, of course, falls really on the consignor. This payment in kind is exacted specially in cases of fruit, which are either heaped on the floor or which have to be weighed. It is impossible to gauge its cost. In the case of figs, however, it was reported, that by custom the producer or the consignor pays two small figs per 20 sers, as cost of carriage of figs to the stall or depot of the buyer from the auction pitch.

The charge for postage, when included in the bill, represents the cost of sending the sales account to the consignor. This, however, is rarely charged by the Poona salesmen. At Poona, the sales-account and sometimes the cash, in settlement of the transaction, are handed to the representative of the consignor, accompanying the consignment or the cartman bringing it in. It may be more necessary to send the account by post, when consignments arrive by car; but, as reference to the analyses of sales accounts in a later chapter, will show, the percentage of cases, in which such postage is charged, is

extremely small; and in most cases, in Poona, a personal delivery of the account seems possible. The postage when charged is at the rate of $1\frac{1}{2}$ annas per account. If the dalal is in the habit of informing the grower, by letter, of the condition of the market, no postage is charged for such service. But as a fact, we rarely came across any evidence of such practice. In some cases, such advice is endorsed on the sales account itself, especially in the case of the sales accounts of Bombay salesmen.

The third type of charge, that may be described as a charge in return for a service, is the charge called 'batta,' which, as some said, is a charge for money-changing. But we found no satisfactory explanation of this charge, given to us.

We now come to the last category of charges, which are obviously justifiable, in the sense that they are not charges for any specific service rendered by the dalal to his client. The first of these, to be considered, may be the so-called rent charge. As we have pointed out above, each commission salesman rents from the municipality a small area, in which to transact his business, where he exhibits the goods consigned to him and conducts his auction. This area, which we may call the salesman's pitch, is the foundation and scene of his activities; and its rent a most important part of current expenses, which he must undertake if he wants to continue as a commission salesman. But this rent the salesman passes on, in a large measure, to his clients, by charging them something in respect of it as rent. It is, as if, a retailer should charge the producer, not only a commission for the sale of his goods, but something additional in respect of the rental of the shop premises. In fact, this rental charge is nothing more than an addition to the dalali or the ordinary commission charged by the salesman. Such a charge, however, is not common; and among the sales accounts obtained by us, we found only one important commission salesman making a charge under this head. This charge was roughly at the rate of one anna for a full cartload, and half-anna for half a cartload of produce.

The second charge of this nature is called "Dharmadaya" or contribution towards a charitable fund. These contributions to charities are very common in all Indian markets; and they are always deducted by the commission salesmen in the case of the cotton, grain and other markets. But their management is in most cases obscure;

and it is suspected that mostly they go to swell the commission salesmen's profits. At least, this is distinctly so in Poona. The information, that we were able to obtain from a few respondents, shows that a small committee of Hindu and Mahomedan dalals is supposed to manage this charitable fund. It was not learnt, to what purpose this fund was applied formerly. But for many years past, it has not been possible to do anything with it; and it remains accumulated in the Imperial Bank to the extent, it is said, of nearly Rs. 5,000. The reasons why the fund has, for many years past, not been utilised at all, are said to be two : (i) differences of opinion between the Hindu and Mohamedan members of the committee, regarding the end towards which the amount may be appropriated, the Hindu salesmen being in favor of a dharmashala at Alandi, and the Mahomedan salesmen wanting to have a mosque, instead; and (ii) disputes between the consignors and the commission salesmen. The consignors are not represented in the Dharmadaya Committee and desire to obtain some voice in the disposal of the fund. They, it is said, attempted to obtain some voice in this management in 1925, and were supported in their attempt by one dalal. They were, however, unsuccessful; and the dalal, who supported them, was boycotted by the rest of the fraternity. On account of these disputes, the charge is, by some commission salesmen, not levied at all. But, quite a large number of salesmen continue to levy it today, though it is highly doubtful, whether the charge, so made, is paid into the account of the charitable fund. It should be noted, that this deduction, on account of a charitable fund, is not voluntary, and that a great many producers resent it strongly. The charge for dharmadaya, when made, is usually one anna per cart-load of fruit, and half an anna for half a cartload.

It will be seen, from the above account, that the manner, in which the sales accounts are presented, differs very widely from dalal to dalal. We have come across many sales accounts, in which no charge was made under any other head than the dalal's commission ; there were accounts, on the other hand, in which each of the items, described above, figured. As we have pointed out above, while some of these items are legitimate charges, borne by the salesman on behalf of his client or levied for services rendered to him, there are others which are obviously indefensible; and their inclusion, in the accounts, must be put a stop to. Even in the case of

the defensible items, there is too much variety and secretiveness; and it is imperative, that legislation should prescribe the form and the detailed manner, in which the commission salesman be directed to submit sales accounts to his clients.¹

Having considered the charges made by the salesman in the sales accounts, we may now devote some attention to the returns of prices made in them. In this connection, the two English practices to which the Linlithgow Committee drew attention were "price averaging" and "price adjustment".² They pointed out that in some cases, instead of returning the actual price at which a consignment was sold, the salesman returned to each grower the average price, for the fruit, obtained in the market for the day; and that in some others, though no averaging was attempted, the prices returned from day to day, to individual owners, were adjusted so as not to show any violent fluctuations. It was not possible for us to obtain very definite evidence on the practice, in this respect, in the Bombay and Poona Markets. This was chiefly because, the very large majority of respondents to our enquiries and questionnaires, were fruit growers; and that we could elicit little direct information from the salesmen themselves. The opinions of growers, when questioned on this point, differed widely. Some were convinced of the honesty of the salesmen, to whom they consigned their produce; and were sure that the sales accounts contained an accurate return of the actual sale price of the consignments. On the other hand, a few asserted that the growers were entirely at the mercy of dalals in this matter; and, inaccurate or even positively dishonest returns were not uncommon. But these, after all, are mere opinions; and it is difficult to say, what importance could be attached to them. What direct enquiries we were able to make, as to the practices of the salesmen, indicated that 'price adjustment,' in the sense in which the Linlithgow Committee uses the term, was unknown in either Poona or Bombay. Averaging is, however, practised in some instances. The most common circumstance, under which averaging may be practised, is the sale of consignments by the salesmen on credit. It was asserted, that when the sale was in terms of cash, the salesman always made an accurate return; but when it was a credit transaction, the salesman was never sure, that he would receive the entire amount of the bid; and, therefore, had to practise what may be termed a combination of both

1 Report on Fruit Marketing (Ministry of Agri. Eco. Series, No. 15, p. 74).

2. Op. cit. p. 51.

averaging and adjustment. There were other circumstances, in which also the sales accounts could not be said to represent the details of an actual sale. This was, when the commission salesmen themselves acted as wholesalers. In the case, for example, of guavas at Poona, or oranges in the Bombay Market, the local demand not absorbing the whole supply, the commission salesman would re-con-sign the produce to other markets. But he would not do this on behalf of the principal, but would buy the produce outright, on his own account. In such a case, the commission salesman, it is said, would return a price, slightly lower than the average obtained in the market for the day, in the sales-accounts sent to his principal. These are circumstances under which the commission salesmen themselves admit that actual prices are not returned. What exactly is the type of adjustment or averaging practised in these or in other cases, or whether in all other cases the prices returned are those actually obtained or not, is not known to us. But anyway, there is nothing to protect the consignor in India, as the English Horticultural Produce Act of 1926 protects him in England, and as there is no reason to presume that the commission salesmen in India are either more careful or more honest than those in England, the need for immediately undertaking legislation on similar lines in this country are obvious.

The one thing, that struck us more than anything else during the course of our enquiry, was the utter sense of helplessness of the producer, and the consequent apathy that he exhibited. To most enquiries he would reply, that he could do nothing against the salesman, that there was no alternative to him; and that, therefore, there was no use bothering himself about any details. He contented himself with the accounts of the transactions rendered to him. This is not to say, that the relations of the producer with the salesman are always bad. In some cases, indeed, we found them to be very cordial; and some of the big producers repose complete confidence in their commission salesmen. But as a general rule, the feeling, if not of actual hostility, was one of suspicion; and many growers freely said that they were not sure of what their salesmen reported.¹ In the absence of any market intelligence

¹ It was said, that as, in Poona, the grower or his representative is at times present at the auction, there was generally less chance of fraud about returns from Poona than those from Bombay, the consignors being as a rule entirely ignorant about market conditions in the latter place.

services or other means by which the grower could obtain information, the helpless position of the Indian grower is further emphasised.

No complaints were received by us regarding the settlement of accounts made by the commission salesmen. In Poona, the owner or his representative accompanies the consignment a number of times. He would, in that case, be usually paid in cash. If there is no grower's representative accompanying the consignment, the sales account and sometimes even the cash, in settlement thereof, could be sent with the cartman carrying back the empties. It is only in rare cases, that it is sent by post from Poona. From Bombay, the sales account is received by the consignor within 4 or 5 days of the despatch of goods; and the actual money is received usually within a fortnight, in most cases by means of a money order. Some growers allow fairly large balances to accumulate with the salesmen, and withdraw them in the lump, instead of receiving small money orders, frequently, during the season.

The extent to which commission salesmen supply news to their clients, is very small. Occasionally, a sales account will be endorsed with some general information about the condition of the market. And, when the market demand is specially brisk and ruling prices good, salesmen may write to their clients to expedite supplies. But such occasions are rare; and even in these cases, no concrete and detailed information about prices is sent. Apart from these, the commission salesmen make no attempt to keep the consignors in touch with market conditions. Some of the Poona wholesalers informed us, that occasionally they receive telegrams from commission salesmen, to whom they consign goods in distant centres like Calcutta, quoting the rates when they are especially favourable. In such a case, the charge of the telegram would be debited to the account of the consignor, if as a result of it a consignment was made. This, of course, applies only to wholesalers, who regularly consigned fruits to other centres and had established connections with the salesmen there. No such source of information is naturally available to growers.

(v) *Marketing Finance*:—We have pointed out above that the class of pre-harvest contractors is financed very largely by commission salesmen, especially the salesmen from Bombay. The Bagwans of Purandhar taluka are the most important among the contractors to

be so financed ; and one of our informants stated, that almost a lakh of rupees have been advanced by the Bombay commission salesmen to this class. The Poona commission salesmen are a much poorer lot, and do not finance their clients to any considerable extent. We were informed by a prominent Poona dalal, that his annual advances to growers amounted to about a thousand rupees, out of which a considerable amount would be unrecoverable. We have also pointed out above, that producers, as a class, do not borrow from the commission salesmen, either of Bombay or Poona. While the body of commission salesmen thus make advances to the contractors who supply them with produce, they have also to grant fairly liberal credit to the classes who buy from them, especially the stall-holders. Sale on credit seems to be the rule in both, Poona and Bombay; and stall-holders, hawkers and jobbers seem to demand and to receive ample facilities, in this direction, from the commission salesmen. As a fact, it was said, that the depressed position of the Poona salesmen, in general, was due to the very large balances that they had outstanding with the stall-holders and the difficulty experienced in recovering the amounts. When their resources are strained in this way from both sides, it is not surprising to find the commission salesmen being forced, habitually, to borrow from others. We were informed, that there were four principal sarafs or money changers, operating also as money lenders, in the Poona Market, who lent small sums at times of emergency to the commission salesmen. These petty loans are, of course, short term loans renewed from time to time; and they are taken principally to pay off the consignors, pending collection of dues from buyers, For long period loans, the salesmen have to resort, a number of times, to regular money lenders outside. The rates for loans, that are most common, seem to be 12 As. to 1 Re. p. c. per month, when the loans are taken from money lenders, outside, on security of houses etc. The rates are higher for short term loans, taken from the market money-changers.

The commission salesmen in the Crawford Market, Bombay, also borrow monies from Marwari money-lenders, at a rate which varies from, it is said, $1\frac{1}{2}$ to 3 p. c. per month. We could obtain no information as regards the extent of these borrowings. It is curious to note, that while the salesman has to pay, on the borrowed part of his capital, these heavy rates, he advances monies very freely; and

charges no interest, at all, on the advances, that he makes to the pre-harvest contractors. These advances are made annually, and the loan recovered from the sale proceeds of the consignments sent to the salesmen, during the course of the year ; but, no interest is charged on the loans. This shows, how highly the commission salesmen value the building up of a *clientèle* amongst country buyers, for the purpose of ensuring a regular supply of fruit consignments. It is also a sufficient commentary on the margins of profits, that must be left to the commission salesman, to enable him to advance freely—nay, almost recklessly, it is said,—large sums, free of interest; while, he is himself borrowing part of the money at a fairly high rate.

(vi) *Wholesaler* :—As the next step after the commission salesmen, we do not find, in either the Bombay or the Poona market, any group of commission buyers, as those operating in the Covent Garden.¹ So far as the local demand in Poona is concerned, even the wholesaler does not step in, in the process. The retailers—hawkers, stall-holders etc.—buy directly from the commission salesmen and distribute the produce to the consumers. It is only when the fruit has to be reconsigned to other markets, that the wholesaler has a function to perform; and in the Poona market, we have a small group of wholesalers, doing this business. The most important of Poona district fruits, reconsigned from the Poona City market, are oranges, guavas and the country mangoes. Among fruits of minor importance, papayas and custard apples are reconsigned. There is only one important wholesaler, who buys lemons in the Poona market for the purpose of reconsignment to Bombay. Little reconsignment takes place in the case of pomegranates, and almost none in figs and bananas. Some of the fruit, imported into Poona from other parts of India, is also reconsigned, especially, to places in the South, from this centre. Naspatis and apples from North India are among such fruit. The Poona wholesaler performs the service chiefly of supplying the various North and South Indian markets with Poona fruit. The wholesaler buys the fruit from the commission salesmen in Poona, then repacks it, and consigns it to dealers in the outside centres. The most important wholesalers, of whom there are only four or five, have premises rented near the market, where they repack the produce and where they have their offices. It is most unusual for the Poona wholesalers to store produce ; they

¹ English Ministry of Agriculture's Report on Fruit Marketing, p. 81.

generally send away all the produce they buy from day to day. Though it was not possible to ascertain definitely the terms on which they consign produce, it would seem that, as a general rule, the wholesalers consign fruit to important dealers in other places, who sell it on commission on behalf of the consignors. The Poona wholesalers do not seem to be sending produce, direct, to retailers in other places. Conversely, the dealers, in Poona, of fruit like naspatis or apples from North India, bors from Ahmedabad, grafted mangoes from South India, or imported fruit brought through Bombay agents, are these Poona wholesalers themselves; and they deal in all this fruit—except the foreign fruit brought through Bombay dealers—on a strictly commission basis, rarely buying it outright on their own account. Of both guavas and oranges, a very large portion of the produce, arriving in the Poona market, is reconsigned. Three or four of the commission salesmen, dealing in guavas, act as wholesalers, and buy the fruit in the Poona market on their own account, and send it on to Bombay. There are also a few others, who are not commission salesmen, but are engaged in this reconsigning business, as wholesalers. Almost the whole of the reconsignment of guavas is directed to Bombay. The reconsigned oranges are sent in three different directions. The details of these have already been given in chapter I. The oranges, sent to the North India centres like Delhi, and to Southern cities like Belgaum, Kolhapur, Raichur etc., are sent mostly by wholesalers who are not commission salesmen. Indeed, one of the most prominent of the present-day wholesalers of fruit in Poona tried to start business as a commission salesman also; but, in this he met with a determined resistance from the existing group of salesmen, and had, therefore, to give up the attempt. The resistance was due largely to the fact, that the wholesaler was an outsider, who had come down to Poona only some twenty years ago. For, there are cases in Poona, of commission salesmen combining wholesaling with their proper business. The oranges (both mosambis and santras) that reach Bombay, via the Poona City market, are mostly consigned to that place by Poona commission salesmen, operating as wholesalers. In such minor fruits as papayas or custard apples, there are usually found only one or two small merchants, doing wholesale business. They buy up picked fruit in the market auctions, and consign it mostly to Bombay. The dealers in guavas are in a class, by themselves; and if they combine any other business with this, it is that of dealing in country mangoes and tamarind. In the case of the other

fruit, there are only three or four important wholesalers. These handle the business of reconsigning oranges, pomegranates etc. from Poona on their own account, as well as deal in the imports, into Poona, of such fruit as apples, peaches, naspatis, malta grapes and grapes from North India. The two or three dealers in grafted mangoes (whether from the South or from the Konkan) and grapes from Nasik, are on the other hand commission salesmen. On the whole, wholesaling in Poona is confined to a very small group of traders; and apart from guava salesmen, only two or three of the more substantial commission salesmen go in for it. Of course, there are a number of small merchants also in the line; but it is doubtful whether they could properly be called wholesalers. For, they handle only small lots; and in consigning produce to distant centres, they are mostly acting on the orders of rich individual customers outside, rather than taking any risks themselves.

There remain to be described, some special types of wholesale dealings in mangoes and bananas. We have noted above, that a considerable quantity of country mangoes passes through the Poona market, east to Pandharpur, Sholapur etc. But the dealings in these are not in the hands of Poona wholesalers. It is said, that merchants from the outside centres arrive at Poona for the season, make their purchases in the market, and directly forward the produce. There is, however, a type of small Poona wholesalers, operating in this fruit. This type of wholesalers buys country mangoes in the form in which they usually come to Poona i. e. unripe, and then stores and ripens them. Working over the whole season in this way, it is these wholesalers who supply the Poona local consumers with ripe country mangoes, which are sold again through the agency of the commission salesmen. These wholesalers, however, are all small men working in a very limited field.

The whole structure of banana marketing is different from that of other fruits. The most important difference is the entire absence of the commission salesman, from the sale of bananas, so far as the disposal of the supplies from the Junnar taluka are concerned. Only supplies, coming from the neighbourhood of Poona, are sold through commission salesmen in the Poona City market. A large part of the supplies, from Walha in the Purandhar taluka and its neighbourhood, are bought up by

two or three wholesalers from Poona, who visit the gardens and buy the fruit from time to time, or enter into agreements with producers in advance of the season, to buy up the produce at certain fixed rates. It is then, these wholesalers who arrange for the transportation of the produce to Poona, where they dispose it off. The Walha banana season is, however, a short one; and the supplies from that centre are much less important than those from the Junnar taluka. The main Junnar supply is sold in the following manner. The bananas are sent in bullock carts from Junnar, and mostly arrive sometime in the morning at Poona. There is a special place or pitch, where the bullock carts habitually camp in Poona. There are only about five or six big banana wholesalers in Poona, having their depots or warehouses in various parts of the city. These wholesalers have also their retail stalls in the city market. So that, in the mornings they are busy in the market; and the representatives of the consignors, accompanying the carts, visit the market in the mornings; and perhaps watch the auctions of local bananas, and have preliminary conversations with the wholesalers. The real sale takes place in the after-noon, at the camping ground of the carts. The sale here is entirely by private treaty. There are no salesmen; and no auctions, open or secret, are held. The banana bunches, when they arrive, are somewhat unripe; and the wholesalers take the cartloads away to their warehouses, where they stock them and subject them to ripening processes. There is no reconsignment in bananas from Poona; and, as the supplies mature in the warehouses of the wholesalers, they are sold through the retail stalls of the wholesalers, or by jobbers, hawkers, stall-holders or other retailers, who obtain their daily supplies directly from these wholesalers themselves.

(vii.) *Retail Distribution* :—We found it much more difficult to obtain detailed information regarding the retail stage of marketing, than about the other stages. From the side of the grower, no information was available regarding this last stage; and as the large body of retailers are the least literate among the various marketing agents, it was impossible to obtain any important information from them. Nor are there, in this tract, any co-operative societies of the type, that supplied valuable information under this head to the Linlithgow Committee.¹ Even the stall-holders in the Reay market, who

¹ Op. cit. p. 61.

are the best off among the retailers, would not supply us with any information.

The retailing in Poona is done chiefly by three agencies: (i) Retailers in the municipal markets, (ii) Street vendors and (iii) Vegetable and grocery shops.

There are three distinct grades amongst the retailers in the Poona City market. 1. The stall-holders in the covered part of the market and 2. those in the uncovered part pay a monthly rent to municipal authorities. 3. There is a third class which pays only a daily rent and occupies small pitches in another part of the open market area. These are men of the smallest means; and quite a number of them, after retailing in the market till about 10 a.m., would hawk the remaining part of their supplies in the city streets. Some hawkers, however, who have to reach the more distant parts of the city, leave the market immediately after they have purchased their fruit. The only other municipal market in Poona is in the camp area; and stall holders here mostly obtain their supplies from the City Market. The number of shops retailing vegetables and fruit in Poona is extremely small. They have mostly been established in recent years and do not play any important part in the distribution of fruit to the consumers. Apart from the city market stall-holders, the street vendors are the important retailers of fruit in Poona. It is not possible to ascertain the number of these vendors, as there is no system of licensing hawkers prevalent in the city. There are no recognised street markets in Poona, except Bhaji-ali; but street vendors may be seen either exhibiting their wares at street corners, or on pavements in most parts of the city, or hawking them from door to door in basket loads. There are very few hand barrows to be observed in Poona. The stall holders get considerable credit from the commission salesmen, but this does not seem to be true of hawkers, a large number of whom trade on borrowed money. It is said that the money-changers in the market, mentioned above, also loan money to a number of these hawkers. It was reported that the rate of interest, charged by these money-changers on the loans, was, when the hawker was not an old established client, one anna per rupee per day. But to regular borrowers, it would be half this i. e. six pies, per rupee, per day. A few instances regarding the hawker's margin of profit, given in the next chapter illustrate partly the nature of the hawker's business.

In general, we have described above the marketing system in Poona itself. This has been inevitable, as Poona is by far the most important local market for the fruit grown in the district. With the exception of bananas and country mangoes, the demand for fruit in the villages and country towns is remarkably small. In the case of oranges, only a small quantity of cull fruit is locally consumed; and figs find a local market only at the peak of production, when prices reach very low levels. There is almost no market locally for pomegranates, but melons find a certain amount of local sale. Fruit is sold locally in the weekly bazars that are held in various villages in the district, and on railway stations. A new development in local sale has recently taken place, on account of the establishment of motor transport. A few hawkers of common and usually inferior grade fruit are now to be found at most important motor-bus stands, along all routes in the district.

The importance in countryside consumption of bananas and country mangoes will be gauged from the fact, that among the wholesale buyers who resort to Walha, it was reported that the majority were from local centres, such as Lonand, Shirwal, Vadgaon and Jejuri, in the neighbourhood; and that they usually purchased the major part of the fruit grown. In the Junnar taluka, all the smaller and inferior fruit is said to be consumed in the local villages; and quite a fair proportion of the crop goes to the Ahmednagar district markets. Similarly, most of the country mango crop of the Purandhar taluka is either locally consumed or goes to the Sholapur district markets. This is also true of the crop from the neighbourhood of Khed-Shivapur, which reaches the distant markets, either direct or via Poona. It thus happens, that places like Khed-Shivapur become very important markets of the particular fruit for the season. It was reported, that at the weekly bazar at Khed-Shivapur, during the mango season, nearly 200 cart-loads come every week; and that merchants from Sholapur, Pandharpur etc. resort to these markets for buying the fruit.

There was even in these local sales little evidence of direct sale from grower to consumer. In the Poona market, except for one or two Walha producers who seem to have local agents for sale in the City Market, we came across no sale of fruit, direct to consumers, by

producers, neither did any case of hawking fruit in the city streets by producers come to our notice. In the local sale, the commission salesman is in no case to be found; but wherever the consumption is large, as in bananas and mangoes, a wholesaler intervenes. For neighbourhood sale, in all fruit including mangoes and bananas, the producer is to be found dealing directly with the retailer, but rarely with the consumer.

The Ministry of Agriculture's Report on Fruit Marketing mentions four ways of direct sale to consumers by producers: (i) sale from shops on own premises, (ii) roadside sale, (iii) sale through the post, (iv) sale by hawking, or through stall or pitch in a retail market. Of these various methods, we have come across no case of the first method in this district. Again obvious difficulties, such as that of standardisation, and also of lack of education and enterprise among growers, make it impossible for growers, in these parts, to sell through the post. Kulu fruit (apples and pears), in small parcels, is sold by post over very long distances; but this method has not been tried, even for grafted mangoes, in these parts. The postal authorities have yet given no attention to the possibilities of such traffic, and no special facilities are afforded for the transmission of perishable articles by post; and even if other conditions were favourable, the high rates for post parcels would make it impossible for the majority of fruit growers to send fruit by this channel to-day. Roadside sale, in the sense of sales actually from the orchards situated on the main roads, is also not common; but as pointed out above, retail sale on railway stations and, to a very much greater extent, on motor stands, is quite common. But very little of this is conducted by the producers themselves. In some cases, one comes across sellers of fruits like water-melons, who are producers. But where the fruit has to be grown in systematic orchards, and the looking after it takes considerable time, the producer is to be rarely found to sell the produce himself. Small quantities of fruit were, however, noticed being sold in weekly bazars; and it is likely, that these are sold by growers or members of their families, because attendance at these would be only once a week, and that too only for a few hours.

Though sale by growers direct to consumers is uncommon, sale to retailers is quite usual in this local trade. Retailers, whether doing business at the motor stands or the village bazars, buy fruits

as a general rule at the orchards themselves. Some idea as to the extent and character of this, would be obtained from the following examples :—

1. At Shikrapur, it was reliably estimated, that fruit like oranges, papayas etc. sold to the extent of nearly Rs. 2,500 per year. Here was also found a road-shop, under the control of the owner of an orange orchard nearby.

2. There are four hawkers of bananas, at Walha, who purchase fruit directly from the orchards, to the extent of 100 fruit, per head, per day.¹

3. At Ale, Belhe and Rajuri, there are women-hawkers, who purchase bananas to the extent of 200 to 300 fruit, for sale on weekly bazar days. There are said to be nearly 40 to 50 of such women-hawkers in this area.²

(viii) *Marketing Organization at Bombay* :—We have hitherto described the conditions obtaining in Poona city and district, with an occasional reference only to the Bombay Market. Our investigation was concerned chiefly with Poona; but as the bulk of the Poona district fruit is marketed in Bombay, the structure of the Bombay market is of considerable interest to the Poona growers. Hence enquiries were also instituted at the Crawford Market at Bombay; and there follows below, an account of some of the peculiarities of the Bombay marketing organisation, as noted by our investigator. Some estimates of the quantities of certain important fruits received in the Bombay market, have already been given in the first chapter.

The Bombay market is, of course, a very much larger one than Poona; and it receives supplies from all parts of India, as also from overseas. The marketing structure is, however, in its main essentials, the same as described for Poona. The wholesale market for all the important fruits is the Crawford Market. The market at Byculla is chiefly a vegetable wholesale market; but certain types, especially, of inferior fruit, are also dealt with in the Byculla market. Thus while the superior guavas from places like

1. It was estimated, that nearly 25 cartloads of bananas were sold per week in the neighbouring villages during the season.

2. On days when there is no weekly bazar in the neighbourhood, some of these hawkers would resort to motor stands nearby.

Allahabad and Jubbulpore go to the Crawford Market, the Poona guavas, as well as guavas from most Deccan districts, are sent to Byculla. Green mangoes, ripe country mangoes, and certain types of bananas—are all chiefly handled through the Byculla Market. In the same way, musk-melons and water-melons may be found in a large a quantity at Byculla, as at the Crawford Market. For the rest, however, all fruit is consigned to the Crawford Market.

Almost all produce, sent to the Crawford Market from Poona, is sent through the hundekari. It is handled at the railway station by a special set of porters; and conveyed rapidly to the market, which is not very distant from the G. I. P. Rly. terminus. The produce is carried from the station to the market, either in hand or bullock carts. The arrangements for this transport are made by the commission salesmen, for which they have to pay a portorage, varying according to size, from Rs. 3 to Rs. 6, per hundred packages. The produce is carried directly to the auction floor. This is a wide area, mostly uncovered, in which the pitches of the various commission salesmen are situated. There is no clear demarcation in the boundaries of these various pitches. Whereas in the Poona market, auctions take place usually only between the hours of 6 and 10 in the morning, this is not quite so in the Crawford Market. On account of the different timings at which the fruit reaches the market, auctions may take place in the afternoon also. The auctions of grafted mangoes, for example, from the Konkan, take place usually in the afternoon. The Poona fruit, however, reaches the market early in the morning and is immediately auctioned off. The auctions in the Byculla market begin unusually early—even as early as 3 a. m. in the summer months. All produce, brought to the Crawford Market, is disposed of by auction, by commission salesmen; and invariably, the auction is secret. There are no open auctions of the fruit, at either the Crawford or the Byculla markets. The quantity of fruit arriving at the Crawford market being very large and the place being cramped, there is need for a quick disposal of the fruit. The fruit therefore, is usually not placed on the floor; nor is there any attempt made at preliminary sorting of fruit, as is sometimes done at Poona. The fruit is sold, as it is, in the packages—baskets, boxes etc.—in which it has been sent. The commission salesman merely exhibits the fruit, in a package or two of a group, as representing the quality; and the auction then takes place. In some cases, when the floor is not crowded and the

salesmen have more time, they may exhibit small lots of specially picked fruit on the floor. This, for example, is done in the case of specially good Alphonso mangoes, sold in four to eight dozen lots. While, in Poona, both the baskets and boxes are returned to the consignor; in Bombay it is only the boxes that are so returned. The produce, packed in baskets is, taken by the buyer, along with the containers; or if he discards the baskets, they are collected, and later on, are sold by the auction-floor contractor.

As regards the returns made by the Bombay commission salesmen, of prices obtained in the sales, more suspicion is entertained, about its veracity and accuracy, by the growers and the public generally, than is the case with the Poona returns. The consignor or his representatives are often present in the Poona market, and are better informed about the market conditions at that place. The majority of the sales are also by open auction; and both these factors conduce to a greater confidence, being placed in the Poona returns. The long distance, the comparative ignorance about Bombay conditions and the secrecy observed in the auctions - all lead to greater suspicion being entertained with respect to the Bombay returns. We were not able to conduct any detailed enquiry with the commission salesmen in Bombay, regarding the practices followed by them in making these returns. We are, therefore, unable to say, whether there is any adjustment or averaging of prices, in the returns made by the Bombay commission salesmen. It is, of course, freely alleged, that such adjustments are, as a matter of fact, made.

The Bombay commission salesmen are organised in an body called the Bombay Crawford Market Fruit and Vegetable Merchants Association. The Association was established in 1920; and its rules mainly aim at eliminating unfair competition, as between the members themselves.¹ It also makes representation on behalf of the merchants to railway and other authorities, whenever such need arises. The rules fix the rates of commission to be charged by the members, and enjoin them all to charge the same rates. They are also for-

¹ Vide Appendix no.1 of the Report of the Mango Marketing Committee (1925). The extent of the present membership of the Association is not known to us; and it seems doubtful, whether the rules and schedules are really operative to-day. We could obtain no copy of any schedule, more recent than the one given by the Mango Marketing Committee.

bidden to return any part of this commission, secretly, to the fruit consignor. The schedules reveal two systems of charging commission. All fruit received from the Deccan Districts, and Nagpur, from Berar and Goa, bors from Benares and guavas are charged on a flat rate basis of so much per package, while all other fruit is charged commission, on a percentage basis. The commission rate varies with different fruits. It is $3\frac{1}{2}$ p. c. on Maskati Dalimbs (pomegranates). This is a specially low rate. The usual percentage rate is $6\frac{1}{4}$ i. e. one anna in the rupee. It is clear, that the flat rate is levied on the comparatively low-priced fruit. It can well be argued, that this low priced fruit cannot be handled economically by the salesman, at the percentage rates at which he handles the other fruit. But this does not seem to be any valid reason for adopting a flat rate charge. The percentage charge may be placed at the figure, at which economic handling is possible. For, the flat rate system has some obvious disadvantages. 1) It leaves no incentive for the salesman to obtain a good price for the fruit he handles, and makes him concentrate his attention on merely increasing the quantity of goods received by him. 2) It also bears unduly on low grade fruit, and makes the change specially onerous at times of price-fall.

We found, that some growers were under the impression, that their salesmen were giving them a specially low rate, though this did not happen to be the case. A detailed study of a number of sales accounts for the years 1930 and 1931 reveal the rates of commission charged at the Crawford Market to be as follows. The printed forms of sales accounts show a variety of charges. These are usually commission, portorage, auction floor rent and charity. But all these charges are filled in, only very rarely. As a fact, in hardly 5 p. c. cases were they shown separately in the sales accounts obtained by us. The charge in the large majority of cases, is made as a consolidated one. In the case of some guava accounts, the sum was shown in two separate classes : (i) commission, and (ii) extras. But even this is exceptional. In some cases, again, postage is charged separately. The postage charge is, of course, for the sending of the sales account to the consignor. It is not, therefore, a charge of so much per package; but merely the addition of an anna or anna and a half, in each individual sales account sent to the consignor, whatever the number of packages or the magnitude of the transaction that the account represents. The majority of the sales accounts inspected by us, do not contain this extra postage charge. As a general rule, thus,

the charge made by the commission salesman is at a single consolidated rate of so much per package. The sales accounts analysed by us, showed these charges to be as follows :—pomegranates As. 6 per basket; guavas As. 7 (As. 4 commission, As. 3 extras) per basket; figs, either 0-4-3 or 0-4-6 per basket. For santras, the most common rate was 5 As. per basket; but a few cases of 0-4-6 were noticed, and some also of As. 6 per basket; for mosambis, the common charge was 0-5-3 per basket; but it varied, going up many times to As. 6 per basket, or descending sometimes to As. 5. The rate, charged for a box of mosambis, was found invariably to be As. 8.

The bulk of the produce arriving at the Crawford Market is sold by secret auction; though, in some cases, business may be transacted by private treaty for small lots, especially after the auctions are over. The commission salesmen in Bombay have not, as a rule, any considerable ware-housing accommodation; and the leaving over of lots from one day's auction to the next, because they do not fetch a good price or for any other reason, is almost as rare as it is in Poona. There are available in Bombay cold storage facilities; but these are utilised only in the case of fruit imported from foreign countries and in the case of the costlier fruit from North India.

The fruit supply for the whole of Bombay City passes through the Crawford and Byculla Markets. As pointed out above, the Crawford Market, is for fruits, by far the more important of the two. The smaller markets in Bombay draw their supplies from these markets. It does not appear, that there is any considerable reconsignment of Indian fruit from Bombay to other centres in India. So far as foreign fruit is concerned, Bombay is the only important centre of import in Western India; and the supplies of these, required by inland centres like Poona, Ahmedabad etc. are reconsigned from Bombay. The volume of this trade is, however, not considerable. In the same way, Bombay reconsigns, to some small extent, fruit received from North India, to centres like Poona; but of recent years, there has been an increase in the practice of direct shipment of this fruit; and hence the size of this type of reconsignment from Bombay is also small. In the case of fruit received from the Deccan, we learnt, that reconsignment took place on any appreciable scale only in the case of mosambis, to the cities of Gujerat, Kathiawar and Rajputana. This also, not

as a matter of regular practice, but rather as an additional outlet to the produce, when the supplies were specially heavy or the prices specially depressed in Bombay. In this case, it is the commission salesmen who dispatch the fruit on their own account to merchants in the other cities, sending in a sales account to the consignor, based on the average ruling price of the day. We learnt, that it was rare for the commission salesman to be put to any loss on a transaction of this kind; as a rule, he made some profit by it.

Because of the comparatively small size of the business of reconsignment from Bombay, there does not appear to have grown in that centre, any special group of wholesale merchants. The importers of foreign fruit are wholesale merchants, who, it seems, import fruit on their own account. But these are four or five in number; and of them, only two have dealings on a very large scale. The Indian fruit, from whatever direction it arrives, is not imported by the Bombay merchants at their own risk, but is usually sent by the consignors to the Bombay commission salesmen; and most of the reconsignment business is in the hands of a selected group of these commission salesmen. As in the case of Poona, this type of reconsignment is done at the Bombay salesman's risk; he dispatches the fruit to commission salesmen at other centres; it being unusual for him to receive orders from importing merchants from these centres. But, there is another type of reconsignment business; which is one of the most lucrative sides of the fruit trade. These are the fulfilling of orders on behalf of princes, merchants and other rich people, outside Bombay. This business is in the hands of a small number of commission salesmen and stall holders, in the Crawford Market.

Though no separate class of large scale wholesalers exists in Bombay, there is in the market another type of small dealer, who is best described, perhaps, by the term 'jobber.' This jobber is a very small man, who buys a few baskets at a time, and disposes them off to either some types of hawkers or consumers who desire to make purchases on a large scale. The jobber makes his purchases on the auction floor; and then exhibits his wares for sale, in the open space along the passages in the auction floor, but within the market precincts. The size of the dealings of these jobbers is from 5 to 25 baskets at a time. These jobbers can profitably operate only in fruit, which is not quickly perishable and can be kept over for a few

days, and in fruit only of ordinary or low grade quality, of which the supplies are large and the demand for which is considerable. They are thus found dealing in oranges, mangoes and guavas, but not in fruit like figs, grapes, or costly fruit like apples, pears, etc. These jobbers are not, it is said, allowed to do any retail business, and cannot sell on a scale of less than a basket at a time. The auction floor contractor charges these jobbers one anna per basket.

The first place, in the class of retailers in Bombay, is held by the stall-holders in the Crawford Market. Here, the choicest and the costliest fruit in Bombay is to be had; and the more important of these stall-holders have extensive connections with rich consumers outside Bombay, and receive large and lucrative orders from them. There are also scattered, throughout the city—especially at places, where the smaller vegetable markets in different parts of the city are held—shops or stalls of fruit-sellers. These, again, draw their supplies from the auctions at the Crawford Market, or in the case of the inferior sort, from the jobbers. Then there is the very large number of hawkers, who roam throughout the city and much beyond it. Bombay hawkers supply most of the nearer suburbs, with a large portion of their stock of fruit; and they may sometimes be noticed as far away as even Kalyan (32 miles distant). There is a large variety of these hawkers to be found. Some, as those who frequent the Fort area, have small lots of costly and choice fruit to dispose of. These they sell usually in small chips, which would contain one or two dozen lots of fruits, like apples, pears or peaches. At the other end of the scale would be found hawkers with wheelbarrows, dealing in only one or two types of fruit, of which the supplies are specially heavy and which they dispose of very cheaply. It was not possible for us to obtain any information about the business of retailing, and the margins of profit that it left.

There is one important feature of the Bombay market, in which its organisation differs largely from that of the Poona market. This is that in Bombay the various capacities of commission salesman, wholesaler and retailer are combined in single individuals to a much greater extent, than is the case in Poona. The distinct class of wholesalers, to be found in Poona, is almost non-existent in Bombay. And, further, among the commission salesmen, there is a larger percentage of individuals, who are also stall-holders, in the Crawford Market, than at the Poona Reay Market. In Poona, though we found that certain

commission salesmen had rented stalls from the municipality, these stalls were not operated by the salesmen, but had been usually sub-let by them to others. In these cases, it had often happened, that a successful stall-holder had become a commission salesman and handed over his shop to somebody else, for management, who still did business under his name. In Bombay, on the other hand, it was reported, that almost half the number of stall-holders in the Crawford Market did business as commission salesmen also. It is, of course, true that the business of an average commission salesman is heavy enough to occupy the entire time of one individual; but, when it is a family or partnership business, the retailing and the commission sides of the business, may continue to have an intimate connection, even though entirely different individuals manage them. Further, as wholesaling is also done at this centre almost entirely by commission salesmen or stall-holders, there is a combination, in the case of a few important businesses, of a diversity of functions. It is alleged, that the effects of such a combination on the fruit trade are extremely evil. To illustrate this, we quote here an extract from a series of articles, that appeared in the Times of India on this question in 1930: "Again there is nothing, whatever, to prevent him from buying up the fruit himself, at what he may consider market price, charging his four annas per basket as commission, and then re-selling at a profit or sending it along to his own private stall for retail at the highest figure he can get..... So, this commission agent has at least three separate possible sources of income, with very little chance of loss, as bad or damaged fruit is removed at the outset and debited to the grower or contractor or whoever the consignor may have been."¹ We were not, of course, in a position to determine whether and to what extent the commission salesmen took advantage of the position in which they find themselves. But there is hardly any doubt, that it is a position capable of being abused; and the Horticulturist to the Government of Bombay has, in a pamphlet, recently published, held that the commission salesmen in Bombay have been to a great extent accused and "rightly accused of collusion, conspiracy and other malpractices."² Under

1 Times of India, Oct. 27, 1930. We do not know what is meant exactly by the last clause. We did not, however, come across any practice, which could be described in such terms.

2 Dr. G. S. Cheema, "The Marketing of Fruits and Vegetables in Bombay," (1932).

these circumstances, the question will have to be seriously considered, whether or no—by a statute or by a municipal regulation—these commission salesmen should be prohibited from acting in any other capacity. In England, there seems to be no such definite prohibition, though the Linlithgow Committee hold, that ‘it is illegal for a commission salesman to sell to himself goods he handles on account of a principal.’¹ The Horticultural Produce (Sales on Commission) Act of 1926 has regulated these dealings in great detail; and the Act does not apply, only if the consignor and the salesman have previously entered into an agreement in writing for the sale of produce, otherwise than on commission. So that, even the English legislation, to-day, would put a stop to some of the practices of the Bombay and Poona commission salesmen. The continental legislation is, in this respect, much more drastic; and we read, that in France the commission salesman is prohibited from buying on his own account, either inside the market or elsewhere; and that he is to be remunerated only by the payment of a commission.² It is to be noted, that the Imperial Economic Committee recommended, that “the practice in the United kingdom should, in this respect, conform to that in certain continental countries, and commission salesmen and brokers should be compelled by regulation to confine their activities to their proper function.”³

1. Op. cit., p. 52.

2. Report on Markets and Fairs in England and Wales, Part I (1927), App. III, p. 76.

3. Reports of The Imperial Economic Committee on Marketing and Preparing for Market of Food-stuffs etc. Third Report—Fruit. (1926) p. 23.

CHAPTER IV.

The Reay Market, Poona.

The principal Poona City market is the Reay Market which is in the main, a wholesale and retail market for fruit and vegetable. The Reay market was built between the years 1884 to 1886. Before that date, the main fruit and vegetable market was held outside the Shanwar Wada; and there were retail markets in other parts of the city also.¹ Since the building of the Reay Market, however, these retail markets have gone out of existence. The only other regular market, within the limits of Poona now, is the Cantonment market, which is a permanent covered market, confined to retail dealings. Fruits and vegetables are sold by street vendors, in other parts of the city, on kerb-stones or pavements; but no regular daily or even weekly markets are held anywhere else. The number, further, of retail shops in various parts of the city, selling fruit and vegetable is remarkably small. And, apart from the sales effected by street vendors, the bulk of the retail sales in these commodities (and of course, all the wholesale transactions) in the city take place at the Reay Market. The Reay Market is situated in Shukrawar Peth and is located fairly centrally. It is, however, somewhat distant from the eastern portions of the city, and the city municipality has sanctioned recently the building of a new market in that portion, estimated to cost about Rs. 50,000.

The total area, covered by the Reay Market i. e. by the building and by the uncovered premises surrounding it, used for market purposes, is about 6 acres. The site, originally acquired at the time the building was planned (1883), was four acres, to which two acres were added subsequently. The original building, completed in the year 1886, then cost the municipality nearly Rs. 1,16,000. The cost of subsequent additions and alterations is supposed to have been nearly Rs. 50,000. The Reay Market building, when originally built, was planned on an ample scale, and was, perhaps for the time, one of the most commodious and best built markets in India. The market building and some of the surrounding premises a

shown in the plan opposite. All the shaded portions in the plan are covered, while the rest of the premises are uncovered. It will be observed that the main building is star-shaped in plan. The building is made up of eight segments. Between each of these lie uncovered but paved portions, in six of which small temporary retail pitches are further let out, and of which only two are used exclusively as passages to and from the market. Each one of these segments or sections has three arcades. These arcades are lined on both sides with stalls in the case of three sections; while, in the remaining five sections, the arcades at the sides are lined with stalls, only on one side. It is not that every section has regular stall arrangements. In most of them, the section floor, which is throughout paved, is marked off by small wooden strips, from the way of passage; and the area within these strips is occupied by a series of retail vendors. The vendors, in these sections, squat on the paved portion, which is on a level with the passages around, and exhibit their wares, heaped on the floor or in baskets placed on the floor. Three sections, however, contain permanent stalls, on raised wooden platforms. The entire covered portion in the main building is devoted to the retail sale of vegetables and fruit. The major portion of the space is occupied by vendors of fresh vegetables, potatoes, onions, chillies, garlic, lemons, cocoanuts, betel leaves etc. Fresh fruit has one section entire, and a portion of two others, allotted to it. The one entire fruit section is provided with stalls of raised wooden platforms. The portion beneath the seat, in these stalls, is used by the stall-keeper for storing his stock of fruit. The stall-keeper seats himself on the platform; while round him is arranged and displayed fruit in tiers on wooden terrace-like structures.

The total number of stalls, within the covered portions of the Reay Market, is 477. Of these, the number occupied in 1931, by dealers in fruit, was 98. The classification of these 98 fruit stalls was as follows: 23 stalls devoted to the sale of guavas, country mangoes and tamarind; 20 stalls, bananas; 9 stalls, lemons; and 46 stalls, other fruit. The stalls in the central portion of the main market building, are occupied by potato-dealers, grocers and miscellaneous provision merchants. The building, though devoted almost entirely to retail sale, is found insufficient for this purpose; and the area round the building is full of

1 Obtained through the courtesy of the Chief Officer, Poona City Municipality.

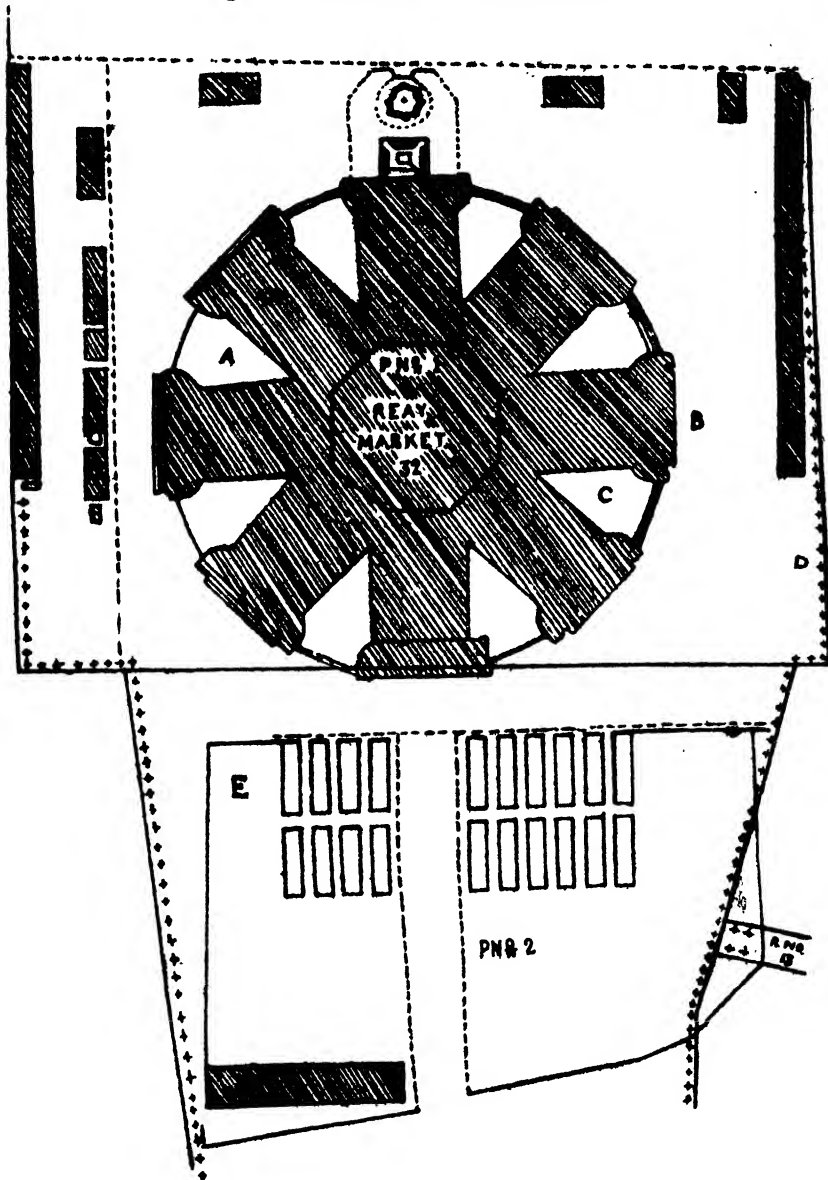
stalls or pitches for retail sale. It should, however, be observed that some 20 to 25 of the more inconveniently situated stalls in the building are usually vacant. In the stalls outside the building, though the bulk of the transactions take place in vegetables and fruit, a large variety of miscellaneous commodities are also dealt in. The number of regular stalls and pitches, as shown in the municipal plan of the market, amounts to nearly 800. But this number is not necessarily indicative of the total number of vendors operating in this area of the market. For, while in some cases, a single vendor may own more than one stall or pitch, there are pitches, which, though bearing a single number, are subdivided usually between a number, sometimes as large as nine, of retailers. Some of these outside stalls are regular covered shops of such merchants as tobacconists or bangle sellers. But the majority do not belong to this type. The uncovered stalls and pitches, which form the vast majority, are also varied in character. A certain number of these are temporary raised stalls; others are nothing more than raised or unraised pitches, where goods are exhibited for sale on the bare floor, which also is, in a number of cases, not even paved. The fruit stands, outside the building, lie mainly to the east and south of it.

The wholesale dealings all take place in the uncovered portion of the market. The auctions of lemons take place in the uncovered section of the main building, marked 'A' in the plan; and the auctions of bananas and such imported fruits as seedless grapes, apples, grafted mangoes etc., in a similar portion marked 'C'. The auctions of guavas, unripe country mangoes, melons, and minor fruit like jambul, karwand etc., take place on the uncovered but raised ground, south of the building, marked 'E'. The auctions of all the remaining important fruit, such as oranges, figs, pomegranates, grapes, papayas, bors and custard apples, take place on pitches, in one corner of the premises to the east of the main building, shown on the plan as 'D'. The number of pitches, occupied by commission salesmen dealing in fruit for the purpose of wholesale dealings, is 48. Wholesale dealings in vegetables take place on the raised but uncovered grounds, lying to the south of the building.

Vegetables and fruit are the only commodities, in which wholesale dealings take place at the Reay Market. For retail purposes, though dominantly a fruit and vegetable market, the Reay Market has also a number of stalls for the sale of groceries, haberdashery, iron-

PLAN OF THE REAY MARKET POONA.

(पुणे-रे मार्केटचा नकाशा.)



mongery, crockery, glass-ware, toys, seeds, potters' wares, tobacco, basket-ware etc. A considerable space is taken up by this miscellaneous assortment of commodities. There are good reasons for, in this way, diversifying the commodities dealt with in a market.¹ In the main, however, the Reay Market remains an agriculturists', especially a market-gardeners' market.

It is clear, that to-day there is considerable congestion in the Reay Market. The space is inadequate for all the purposes, both inside and around the market building. The congestion is specially felt in the uncovered area. The approaches to the market are also extremely difficult. The road approaches, especially from the eastern and southern sides, are narrow and difficult for vehicular traffic. What open space there is on the south of the main building, is almost entirely covered by stalls and pitches; there is no open space on the west; and the little open space, beyond the road on the north, is utilised as parking ground for cars and tongas. The largest available open space is on the south. This also is largely occupied by raised platforms for pitches, for retailers and wholesalers. But, the difficulty usually is, that, as this is the way from which producers mostly approach the market, the roads on this side are always congested with bullock carts or motor lorries that are unloading goods or are parking. In the south-west corner, there are more than three motor service agencies; and one or more lorries are always coming in and going out. These lorries, having nothing to do with the market, are an unnecessary nuisance to those, entering the market premises through that corner. Produce, as it comes in, is generally transferred from the vehicles to the auction pitches, either by cartmen or by porters, as headloads; no wheel-barrow seems to be used.

The Reay Market is a city municipal market, and the vendors in the market are tenants of the municipality. A large number of stalls, in the main market building, are leased on a monthly basis. While the uncovered area is leased partly on a daily basis, and partly on a monthly basis. With regard to fruit stalls in the main building, as well as outside, the tenants are usually of considerable standing; and they claim a great many prescriptive rights. The dimensions of the fruit stalls within the building are $6\frac{1}{2}' \times 7'$ or $7' \times 7'$ and the rent for them varies from Rs. 2-4-0 to Rs. 5, per month,

1. Cf. Report on Markets & Fairs in England & Wales, Part I, p. 28,

according to situation. The relations of the Municipality with the stall-holders are not, at present, well-defined. The Municipality, under the new byelaws that it passed in 1925, laid down that a rent-note should be obtained from each stall-holder in the Market, and that the period of the rent-note should be 20 years. The municipality reserved to itself the right to revise the rent, every seven years. It was provided, that not more than one stall, within the market limits, should be rented to one and the same holder; and that in the case of the demise of a holder, the possession of the stall should be continued to the heir of the deceased. Even after the 20 year period, it was provided, that the stall should be continued to the old holder, in case he agreed to the enhanced rent or any other new conditions imposed by the municipality. It was also provided, that if, for any reason, a stall fell vacant, it should be put to public auction and leased to the highest bidder. These bye-laws have not been agreed to, however, by the old stall-holders. They claim a prescriptive right to hold the stalls at the old rents for themselves and their heirs, for an indefinite period; and the Municipality has not been strong enough to enforce the administration of the new bye-laws. The old stall-holders are thus able to sub-let the stalls at a considerably higher rent, and make a profit out of it.¹ It is also alleged, that though, according to the new bye-laws, no two stalls may be overtly held in the name of the same person²; yet, in effect, by putting stalls on the names of their near relations, certain individuals actually hold a number of stalls.³ It is remarkable, further, that not a single stall-holder has yet passed a rent-note to the Municipality. The position, in this regard, of the wholesale and retail dealers is the same. The rent for the pitches of the wholesalers is Rs. 3, per month, for a pitch of 10'x10'. The guava commission salesmen occupy rather larger plots, being in size nearly 15' x 20'; and the rent for these is Rs. 4 to Rs. 5 p. m. The mango pitches are even larger, and are charged at the rate of Rs. 8 to Rs. 10 p. m.⁴ The retail fruiterers' stalls, in the open and uncovered space, are charged usually at the rate of

1. A stall is usually sublet for double its normal rent.

2. As a fact, out of the old-stall-holders, two have four stalls each, on their names; while the number of those, having two stalls, would amount to nearly 30.

3. Vide Kesari, dated, July 4, 1933.

4. The commission salesmen occupy these pitches only till 2 a. m. After this time, they are let by the municipality to retail sellers of fruit and vegetables.

Rs. 2-8-0 p.in. for a 6' x 6' stall. The daily rate, at which such stalls or pitches are let, is one anna, per day, for an area of 4' x 4'

There is a special market committee, appointed by the municipality; but the committee has no executive powers and most important matters have to go to the standing committee. The principal officer of the municipality, in respect of the market, is the Reay Market Inspector, who has under him a staff of moka-dams, watchmen and sweepers. The Market Inspector has chiefly to look after the cleanliness of the premises, to collect rents from the different stall-holders, and to punish, if cheating in this respect is brought to his notice, the use of false weights and measures by vendors. The salaries of the market inspector and the other staff form the chief item of expenditure, incurred annually by the Municipality, in the market department. The other important items of the budget are repairs to buildings and roads, and buildings insurance. The current expenditure being thus limited, the Municipality is enabled to make a substantial profit, every year, on account of the market. The income to the Poona municipality, on account of the Reay Market, was during 1929-30, Rs. 48,864 and in 1930-31, Rs. 54,419; while the total expenditure incurred was in 1929-30, Rs. 16,325, and in 1930-31, Rs. 16,133. The income is derived almost entirely from the rents charged. There is no valid reason, why the Municipality should charge to its tenants anything less than the proper economic rent, for the accommodation that it affords. In fact, it is usually suggested, that such an authority as the municipality should charge always the full economic rent; as, otherwise, it would give the tenants in its market, an unfair advantage, over those who sell from shops, outside the market premises or in other parts of the city. But the existence of a large revenue from market administration makes it incumbent on the Municipality to adopt a progressive policy with regard to market improvements, and to see that the maximum of facilities are afforded to producers, vendors and consumers that resort to the market.

There are a number of improvements that are necessary to be effected in the present condition of the Reay Market. In the first instance, it is obvious, that the total covered accommodation, afforded by the market and the total area of the premises of the market, are utterly inadequate for the purposes of the trade carried on. Referring specifically to dealings in fruit, the provision of facilities for whole-

sale trade are extremely unsatisfactory. The entire wholesale dealings take place in the uncovered portions of the market premises; and the amount of inconvenience, therefore, caused to buyers as well as sellers, during especially the rainy season, is very considerable. It is imperative, that some protection against weather should be offered to the wholesale dealers' pitches. Not only is this so, but the floor of that area, used as pitches by the wholesale dealers in oranges, pomegranates, figs, guavas and mangoes, is neither paved nor cemented; and in the case of the first three fruits, it is not even raised above the level of the roadside and the passages. This results in the fruit being handled, many a time, on a very dirty and muddy floor. The raising of the floor of the pitches, and its being cemented or paved, is an extremely urgent measure of reform. The total area, again, available for these wholesale dealings, is not adequate; and there is no clear demarcation, as there should be, between the pitches of the various commission salesmen. It is necessary, that pitches should be larger, and that they should not be so crowded together, as to hinder greatly the movement of packages and produce, from the carriages to the auction floor, or from the auction floor to the retail stalls. With regard to the retail stalls inside the market, the chief comment to be made is that the middle row of the fruit stalls, in the main building is rather ill-lighted. We would, therefore, recommend the placing of a few glass-tiles in the roofing of the middle-rows of each section in the whole building, so as to allow of sufficient light coming in. We have another minor suggestion to make. We learn, that at present, though the arrangements for sweeping the market floors are sufficient, it is only once a year that the market is thoroughly washed. In view of the character of the produce dealt in, in the market, we feel, that the washing should take place much more frequently, say, once a week.

There is at present no system of licensing porters who work in the market. Porters, working for producers, for commission salesmen, or for consumers, are all unlicensed; and especially about the pitches of the commission salesmen, there is always a large miscellaneous crowd of porters and others. This leads to many abuses; notably, it leaves a great deal of room for pilfering. It, further, unnecessarily increases the number of helpers around the commission salesman some amongst whom may help themselves, by taking a little of the produce. We recommend, therefore, that all porters, plying within

the market precincts, should be licensed and should wear a badge. This provision should also apply to the porters working for commission salesmen or wholesalers; and the number of such licensed porters should be limited.

The gravest defect of the market is at present, perhaps, the condition of its approaches and the provision for the movement and parking of vehicles within its area. There is no proper regulation of traffic, within the market premises. We have already noted, how the operation of bus-services at one end unnecessarily congests the approaches on that side. In the same way, traffic, which has nothing to do with the business in the market, is allowed to obstruct the movement of goods, persons and vehicles on the market roads. It ought to be possible to regulate this in some way, and also to lay down definite directions as to the movement of the market traffic itself and the parking of vehicles and heaping of produce. The English Agricultural Ministry's Report on Markets and Fairs¹ points out, that "the efficiency of a market for perishable goods depends, very largely, on the speed with which produce can be moved about" and lays down certain standards regarding road-widths etc. Measured by these standards, the Poona market roads are utterly inadequate; and some special regulation of the vehicular traffic moving about the market area, is absolutely necessary. The provision, further, that exists to-day for the parking of producers' carts, is insufficient. Parking space for bullock carts etc. is at present provided in an open plot to the south of the extreme southern road, which may be said to be sufficient for about 50 carts. We believe, that, if proper regulations about movement of traffic and parking of vehicles are to be enforced, this provision will, at least, have to be doubled; and, instead of the bare open space, some greater facilities in the way of shelter and security, provided for. If this is done, a small charge, say, of one anna per cart, per day, may be justifiable. But, looking to the market budget, at least the initial cost of such an improvement should be borne by the Municipality.

We are not in a position to say, whether there is any demand or need at present of cold storage accommodation being provided in connection with the market. We have noted above, that the cold storage facilities in Bombay are not used in the case of Poona fruit.

1. Op. cit. Part I, p. 35.

This is so, presumably because this fruit cannot bear the cost. It may be, however, also because the determination of conditions, under which fruit like fig keeps best, has yet to be made. That cold storage helps very largely in avoiding the worst consequence of fluctuations in supply, is well-known. Whether, in the case of Poona fruit and vegetables, it could be provided for cheaply enough and whether further experimentation is necessary in the adaptation of cold storage technique to Indian conditions, are problems, to which we would earnestly direct the attention of the municipal market authorities.

A very much wider possibility of reform is in the direction of holding a "Growers' Market." There is at present in Poona no section of the Reay Market, set apart for a growers' market, as such; and though possibly some growers of vegetables and fruit may sell their produce directly to the consumer, this would be entirely exceptional. No provision is made for growers to sell their produce in bulk, to wholesalers or retailers. All of this has necessarily to pass through the hands of commission salesmen. Poona is specially favourably situated for trying the experiment of building up a growers' market. The supplies of fruit and vegetables in the neighbourhood are abundant; and most of the produce comes into the market by road, from fairly short distances. It would be easy, therefore, for a grower or his representative, to accompany the consignment and return by the evening to his place. A growers' market is a well-nigh universal feature of the bigger and more organised English markets, whether in the producing or the consuming centres.¹ Birmingham, Derby, Nottingham, Bradford, Huddersfield, Leeds, Liverpool, Manchester have all either special parts of the market or open spaces near the market, reserved for the use of growers. As a general rule the growers sell their produce from the vehicles, and they do not mainly sell retail, but in the bulk, to either wholesalers or local retailers. In giving an indication of what may be regarded as a desirable standard, in the provision of wholesale market facilities in consuming centres, the Ministry of Agriculture's Report on Markets and Fairs gives a prominent place to the following: "Adjacent to or within the wholesale market, should be space to accommodate producers or producers' organisations, who are desirous of disposing directly of their produce. In the fruit and vegetable market, this

¹ Report on Fairs & Markets in England & Wales, Parts II & III.

need only be a plot of land suitably paved and covered, on to which farmers can bring their vehicles and sell therefrom."¹ In the U.S.A. also there is a very considerable extension of the practice of growers directly selling their produce in the markets; and in some parts of the country, indeed, there are large markets which serve primarily as and are designed as "farmers' or growers' markets."² The provision of a growers' market will profit, in the main, market gardeners and growers of vegetables; but, in Poona, a certain amount of fruit also may be sold directly by the growers. It is not expected that any very considerable diminution in the volume of trade, passing through the hands of the commission salesmen, will immediately result as a consequence of the establishment of a growers' market. But such a market will provide a very useful facility to growers who are favourably situated; and more important still, it will act as a very salutary check on the dealings of the commission salesmen, the charges made, and the prices returned by them. It would be entirely sufficient, if a start is made in Poona by setting apart an open space near the market, at which growers can sell from their vehicles; and by reserving some of the pitches, outside the main building, for growers who bring in their produce as headloads. It is likely, that in the beginning, very few growers would take advantage of the facilities and effect sales by methods to which they are unused. It may be necessary to work preliminarily, in the way of bringing about a producers' organisation. But such an organisation could come into being and work successfully, only if the municipality makes provision for a special "growers' market."

As we have described above, the present relations between the Municipality and the stall-holders are not satisfactory; and the Municipality has not yet been able to enforce the bye-laws it framed, as long ago as 1925. It is alleged, that this weakness of the municipal authorities results from the presence and influence, in the municipal council and the standing committee, of some commission salesmen, stall-holders and others connected with members of that class. The bye-laws appear to be, by normal standards, reasonable; and if there is any special grievance, it should be possible by mutual deliberation to settle it. It is, however, an

1 Op. cit. Part I, p. 35.

2 Ref. "A survey of some Public Produce Markets in Up-state New York." By F. P. Weaver, Cornell Univ. Agr. Expt. Sta., Ithaca, New York, 1930.

entirely undesirable state of things, that municipal control over dealings in the market should have so weakened. To remedy this state of affairs, it is necessary to institute a strong market committee entrusted with certain well-defined powers. The market committee should be so composed, as to enable it to deal, sympathetically yet fearlessly, with all problems. If the market committee is to be composed entirely of municipal councillors, it must be provided that no member of that committee shall be a tenant in the municipal market or be connected with such a tenant. In the absence of such a provision, the present state of affairs will either continue or become worse. It will not, then, be possible to control stall-holders and regulate their dealings; and the market inspector will be utterly powerless. We recommend, later on, the exploration of the possibilities of municipal control over the dealings of commission salesmen. In such a matter, or in the publication of wholesale prices, municipal action is impossible under present conditions. Even the proper inspection of weights and measures, by the market inspector and his staff, may be held to be impossible, as long as there is no strong and impartial market committee in existence. It would perhaps be best, however, to associate with a market committee, consisting entirely of municipal councillors, another advisory committee representing various interests. The presence of the representatives of growers or consumers on such a committee, would be extremely helpful; but, in the absence of producers' or consumers' associations, which could provide such representatives, we would suggest seeking the cooperation and inviting representatives of the Agricultural Department and the District Cooperative Institute to work on the committee. Such an advisory committee will, of course, also include representatives of commission salesman and retail stall-holders.

Another point, to be noted, with regard to the administration of the market, is that the market inspector is not authorised, under the present bye-laws, to inspect, on his own initiative, weights and measures in the market. He can act only if a complaint is made to him. This seems to be an undue restriction of the powers of the market inspector; and we recommend, that his powers be suitably enlarged. We would, however, go further, and urge a more complete supervision and control over weights and measures, used in the market. Even under the present bye-laws, only steel balances can be used for all kinds of weightments in the Reay

Market.¹ This bye-law is, however, not observed in the case of weighments by dalals of 4 sers or over. The bye-law should be strictly enforced; and only such balances, weights and measures, as have been previously examined and certified by the municipal authorities, should be allowed to be used in the market. It may even be possible for the municipality itself, to get prepared standard balances, weights, and measures, and to compel their use within the precincts of the market. This question of weights and measures is widely recognised to be very important, and should engage the attention of the market committee.

It was not possible for our investigator, in the comparatively short time that he spent there, to collect information for writing a similar descriptive account of the Crawford Market, Bombay. The Gazetteer of the Bombay City, published in 1910,² contains some account of the markets in Bombay; but we know of no more recent description of these markets.

1 Rules and Bye-laws of the Poona City Municipality, p. 175.

2 Part III, pp. 55-62.

CHAPTER V.

The Costs of Distribution.

In the study of marketing problems, the ascertaining of the costs incurred on different stages in the marketing process is extremely important. It is only when such information is made available, that we can say whether the charge made for a certain service is too high or not. There are two distinct stages in which the marketing process can be divided—the wholesale and the retail. We have already explained, that it has been impossible for us to obtain any considerable information regarding the retail stage. It would have been best, if possible, to trace certain consignments of fruit, from the moment they left the orchard till they reached the consumer, and then calculate the proportions of the intervening costs. This, however, was found too difficult to accomplish. Some idea of the spread between wholesale and retail prices in Poona may be obtained from the price statistics presented in Chap. II.¹ We shall also towards the end of this chapter give a few concrete cases of hawkers' dealings to illustrate the same point. We have not, however, any material bearing on the spread between retail and wholesale prices in Bombay; and nowhere have we found it possible to go into the different items into which the cost of retailing is split up.

(i) *The Bombay Sales Accounts:*—The commission salesman at the important markets is the principal agent in the wholesaling process; and it is from him that the wholesale prices have to be ascertained. Taking the price, as returned by the commission salesman to the grower as the primary wholesale price, we are concerned with analysing the various elements in this price and ascertaining the net proportion of it received by the grower. As pointed out in Chap. I, we have been enabled to do this, because of the large number of commission salesmen's sales accounts, supplied to us by prominent growers. We had collected nearly a thousand of these sales accounts, a certain number of which we could not use on account of a variety of reasons. We

¹ Ante pp. 38—40 (Table X)

TABLE XI.
Summary of the analysis of Sales Accounts submitted by commission salesmen at the Bombay Markets to certain growers or Khotidars in the Poona District in the years 1930, 1931 and 1932.

Years.	Kind of fruit.	No. of Sales accounts.	No. of Baskets	Total Price realized i. e. Total selling price.	Deductions.			
					Forwarding Agent's Bill (including Railway freight.)		Commission Salesman's Bill.	
					Amount, Rs. as. p.	percentage of selling price.	Amount, Rs. as. p.	percentage of selling price.
1930	Guavas.	135	672	1560-15-0	473-4-6	33-3	301-12-9	19-3
"	Mosambis.	48	1193	3157-3-0	399-12-3	12-7	448-8-0	14-2
"	Pomegranates	38	380	573-0-9	148-15-3	26-0	144-8-9	25-2
"	Santras.	20	328	681-8-0	134-13-0	19-8	145-8-0	21-3
	Total	241		5972-10-9	1156-13-0	(19-4)	1040-5-6	(17-4)
1930	Figs.	157		3365-12-0			579-10-6	17-2
1931	Guavas.	171	508	1340-11-3	424-7-0	31-6	230-8-6	17-2
"	Mosambis.	30	140	689-12-0	103-12-6	15-1	95-5-0	13-8
"	Pomegranates	31	+87 Boxes. 136	179-12-0	51-8-0	28-7	48-4-9	26-9
"	Santras.	6	49	125-2-0	17-9-6	14-1	15-5-0	12-2
	Total	238		2335-5-3	597-5-0	25-6	389-7-3	(16-7)
1932	Papayas.	10	36	58-9-0	21-7-6	(36-8)	14-0-3	(24-0)

have, however, analysed about 800 of them; and deal with the results of this analysis in what follows. The large majority of these sales accounts are from the Bombay commission salesmen. The Bombay commission salesman, in the return he makes, levies normally a consolidated charge, which includes his commission as well as such charges as portorage, postage etc. It is through the commission salesman also, that the bill of the forwarding agent is paid. We thus find in the return made by the commission salesman to the consignor, the total amount of the forwarding agent's bill, also entered. By far the most important item in the forwarding agent's bill is the railway freight; but it also includes the forwarding agent's commission and the postage charge made by him. The above table shows the results of the analysis of the sales accounts relating to Bombay.

The sales accounts were collected by us from a number of growers in different parts of the Poona district; and they referred to sales effected by a variety of commission salesmen in Bombay, Poona and other markets. The sample is a random one, and there is no reason to believe that the results it gives are not fairly representative of the general condition of things. It should be noted, in the first instance, that the net return to grower cannot be deduced from the above table. Because the table does not include charges for road transport i. e. the charges incurred before the consignment was placed in the hands of the forwarding agent at the railway station and it does not also include the earlier costs of picking and packing. Carriage on empties is also not indicated, but as only boxes are returned from Bombay and not baskets, this would not make much difference to the above table. It is only in the case of some sales accounts of mosambis in 1931, that boxes figure in this table. A prominent feature of the above table is the very considerable difference in percentages of the wholesale price, represented by the different services in the case of oranges on the one hand, and guavas, pomegranates and papayas on the other. For mosambis in both the years 1930 and 1931, and for santras in 1931, the transport as well as the commission charges range between 12 and 15 p. c. The difference between the santra analyses as between 1931 and 1932 is considerable, and cannot be explained, except perhaps by the supposition that the consignments in the second year represented a picked lot. The comparative heaviness of the charges on guavas and pomegranates is explained

by the fact, that the Poona fruit in both these cases, is of an inferior variety. It should be observed, that while the percentage of selling price, taken up by the railway charges, is higher in the case of guavas than that of pomegranates, the reverse is the case so far as the commission salesman's charges are concerned. The guava commission salesmen operate in the Byculla market; and their charges seem, by comparison with the Crawford Market people, to be moderate. The analysis of the small number of papaya accounts shows, that papayas have also to bear very heavy charges. The sales accounts of figs that we obtained, did not indicate the amount of transport charges incurred, and the percentage, therefore, of only the charges of the commission salesman could be calculated. In the above table, the averages as calculated for the two years, have little value; for in one year they are too low, because of the dominance of the mosambi sales accounts; and in the next perhaps a little too high, because of an overweighing of guavas.

It is obvious from the above table, what a heavy burden of marketing costs our fruit industry has to bear. The Linlithgow Committee in analysing similar transactions¹ in England, gave it as their opinion, that the percentage charges there revealed were unduly heavy. These on an average were for transport, for short distances (including carriage on empties), 8.9 p. c., and for commission and other expenses 12.36 p. c. As compared with even these figures, our costs are enormously higher. With regard to transport costs, it should be remembered, that the fruit has travelled, in each case, a distance of only between 120 and 150 miles; and that the costs of road transport, upto the railway station, have not been included in the table. Out of the total bill of the forwarding agent, almost nine tenths may be said to represent railway freight.² The railway charge will thus be seen to bear very heavily on inferior fruit and is heavy even on oranges. The same remark may be made with regard to commission charges. It would be specially apparent from the table, how unfairly the system of a flat-rate charge per package, works in the case of inferior fruit and at the time of falling prices.

(ii) *The Poona Sales Accounts* :—In the collection of sales accounts made by us, a comparatively small number referred to the transactions at the Poona Market; and these were distributed over a period of three years. A summary analysis of these sales accounts is given in the following table.

1. Report pp. 49-50.

2 In a lot of nearly 40 sales accounts, in which details regarding the forwarding agent's bill were given, we found the following distribution of the total amount of the bill. Railway freight 87.14 p. c.; forwarding agent's commission, 10.89 p. c.; postage, 1.77 p. c.

TABLE XII.

Summary of the analysis of Sales Accounts, submitted by commission salesmen at the Poona Market to certain growers or Khotidars in the Poona District, in the years 1930, 1931, and 1932.

Year.	Kind of Fruit.	No. of sales accounts.	No. of Baskets.	Total Price Realised. (i.e. total selling price.)	Salesman's commission and other expenses.	
					Amount.	Percentage of Selling Price.
1930	Mosambis.	22	...	Rs. a. p. 355-6-0	Rs. a. p. 23-0-0	6.5
	Pomegranates.	11	136	102-9-9	7-12-6	7.6
	Total	33		457-15-9	30-12-6	(6.7)
1931	Santras.	14	612 + (18 Boxes.)	726-4-0	71-1-0	9.8
	Mosambis.	8	39	1-8-12-0	16-1-0	12.5
	Pomegranates.	22	467	253-8-6	32-0-6	12.7
	Total	44		1108-8-6	119-2-6	(10.8)
1932	Santras.	29	1308 + (13 Boxes.)	1317-0-3	128-8-6	9.8
	Mosambis.	6	111 + (2 Boxes.)	120-6-0	11-8-3	9.6
	Pomegranates.	22	400	160-0-9	20-1-6	12.5
	Total	57		1597-7-0	160-2-6	(10.0)

As the forwarding agent does not intervene in the transport of fruit to Poona, we could get no information about the transport costs from the sales accounts of the commission salesmen. The transport costs and such other costs as octroi, are borne by the consignor himself directly. In the table above, therefore, only the deduction, made by the commission salesman, has been calculated. As pointed out in a previous chapter, the Poona salesmen present a bill consisting of a variety of items; but as these items vary from salesman to salesman, and as there is no uniformity in the rates at which the charges are levied, we have consolidated the amount of the bill in the above table. The year 1930, for which also the number of sales accounts are the fewest, shows a remarkably low percentage charge of commission. In the succeeding two years, however, the figure rises considerably, as a result perhaps of falling prices. 10 p. c. may be taken as the average of the commission salesman's bill of the total sale price. The fruit arriving at Poona is much inferior to that sent to Bombay; and it is only the graded system of charging commissions, ruling in the Poona market, that prevents the charge from rising very much higher.

Some idea as to the composition of that side of the Poona commission salesman's bill, denoted by the term "other expenses", may be obtained from the following information. We analysed in all 163 sales accounts relating to transactions in the Poona market. Of these, 29 sales accounts relating to figs have not been incorporated in the above table, as in their case the commission salesmen charged commission, not to the consignor but to the buyer. In 139 sales accounts out of the 163, separate entries, in respect of charges other than the commission, were made; in the remaining, the commission of the salesman was the only charge levied. The charge for portorage was found levied in 117 sales accounts. Its proportion varied in oranges from .1 p. c. to .4 p. c. of the sale price; in the case of pomegranates it amounted to about .5 p. c. of the total sale price. The 'dharmadaya' or the charitable fund charge was entered in 116 sales accounts. Its incidence was from .1 p. c. to .3 p. c. of the sale price in the case of oranges, about .5 p. c. in pomegranates and .8 p. c. in the case of figs. The "batta" or "kasar" was found levied in 39 sales accounts; and varied from .6 p. c. to 1.4 p. c. of the sale price, in the case of oranges and figs. The rental charge was levied in 37 cases; and varied, in incidence, from .1 p. c. to .4 p. c. of the total sale price, in the case of oranges and pomegranates.

TABLE No. XIII.

Summary of the analysis of the Forwarding Agent's Bill with details, as shown in certain sales accounts, submitted by commission salesmen at Sholapur market to certain growers or khotidars in the Poona District.

Forwarding Agent's Bill.										
Year.	Kind of fruit	No. of sales accounts	No of baskets	Total selling price Rs. as. p.	Total.		Railway charges		His own charges (including postage)	
					Amount. Rs. as. p.	p. c. to total s. p.	Amount. Rs. as. p.	p. c. to total s. p.	Amount. Rs. as. p.	p. c. to total s. p.
1930	Mosambis.	1	5	7-2-0	1-6-6	19.7	(Details not given in the original sales accounts.)	21.4	7-8-3	3.7
"	Pomegranates.	27	191	205-4-0	52-8-3	25.6	43-14-0			
"	Pomegranates.	13	89	87-14-0	24-8-6	27.9	(Details not given in the original sales accounts.)	14.7	1-0-0	4.2
"	Santras.	5	20	23-14-0	4-8-0	18.8	3-8-0			
	Total ...	46	305	324-2-0	82-15-3	(25.6)	...	...	...	...
1931	Mosambis.	4	18	24-8-0	6-0-0	24.5	5-3-0	21.2	0-13-0	3.3
"	Pomegranates.	9	32	30-1-0	11-5-0	37.6	9-8-0	31.6	1-9-0	5.2
	Total ...	13	50	54-9-0	17-5-0	(31.7)	14-11-0	(26.9)	2-6-0	(4.4)

TABLE No. XIV.

Summary of the analysis of Commission Salesman's Bill, with its details, as shown in the sales accounts, submitted by certain commission salesmen at the Sholapur market to certain growers or kholidars in the Poona District in the years 1930 and 1931.

Year.	Kind of fruit.	No. of sales accounts.	No. of baskets	Total Selling Price.	Commission Salesman's Bill.						
					Total.	Salesman's Commission		Other expenses		Carting charges and octroi duty	
						Amount. Rs. as. p.	percent- age to total s. p.	Amount. Rs. as. p.	percent- age to total s. p.	Amount. Rs. as. p.	percent- age to total s. p.
1930	Pomegranates.	14	94	95-0-0	17-12-6	18-7	...	...	...	...	...
1931	Mosambis.	4	18	24-8-0	4-4-0	17-3	2-4-0	0-8-0	2-0	1-8-0	6-1
"	Pomegranates.	9	32	30-1-0	7-4-9	24-3	4-0-0	1-2-0	3-7	2-2-9	7-2
	Total ...	13	50	54-9-0	11-8-9	(21-2)	6-4-0	1-10-0	(3-0)	3-10-9	(6-7)

(iii) *Sholapur and Belgaum sales accounts*:—In the sales accounts obtained by us, there was also another lot of accounts, dealing with the Sholapur Market. These have been analysed, and their results shown in the following tables. On account of the great variety of the system of making returns, these sales accounts could not be analysed, in the fashion in which the Bombay and Poona accounts have been analysed. Table XIII relating to these accounts given on page 106 (i.e. Table XIII) shows the charges included in the forwarding agent's bill, and the proportion they bear to the total selling price.

The forwarding agent's bill has been split up, wherever possible, into its main constituent units, namely, the railway charge, the agent's commission and other expenses. The fruit in going to Sholapur travelled over approximately 130 miles. The railway charge, it will be observed, bears very heavily on the fruit. The difference between oranges and pomegranates, seen in the Bombay tables, is also exemplified here.

The next table (Table XIV) on page 107, shows the amount and proportion of the charges of the commission salesman. The commission salesman's commission and his other expenses are all shown inclusively, in this table, in one column. The commission and the total of the other expenses have also been shown separately, in two other columns, where possible. The total bill of the commission salesman bears, in this case, almost as high a proportion to the selling price as in the case of Bombay.

The commission salesmen in Sholapur usually subdivide their charge in a variety of items. These are, apart from the commission charge proper, (i) octroi and the transport charges from the station to the market, (ii) charitable fund, which is used, it is said, in keeping in repair a local masjid, (iii) postage and (iv) 'market' which is a charge levied by the person who has taken in farm, the revenue from auction floor, for the year, from the municipality; this, last item is really in the nature of a rental charge, which should properly fall on the commission salesman himself. For purposes of comparison, it should be noted, that in Sholapur the municipal octroi is a special charge, which is not levied in Bombay. The octroi, however, is, in all the sales accounts, not shown separately from the local transport charges, and its incidence cannot, therefore, be exactly calculated. In one lot of sales accounts that we obtained, the details of the commission salesman's other expenses were not shown separately.

TABLE No. XV.

Summary of the analysis of some Commission Salesmen's bills, showing items other than commission, as shown in Sales Accounts submitted by certain commission salesmen at Sholapur market, to growers or kholidars in the Poona District, in the years 1930 and 1931.

Year.	Kind of Fruit.	No. of sales accounts.	No. of Baskets.	Total Selling Price.	Items in Commission Salesman's Bill					
					Dharmadaya (charity)		Postage		'Market' charge (rent)	
					Amount Rs. as. p.	Percent- age to total s. p.	Amount Rs. as. p.	Percent- age to total s. p.	Amount Rs. as. p.	Percent- age to total s. p.
1930	Pomegranates.	27	191	205-4-0	0-13-6	0-41	1-11-0	0-82	0-13-6	0-41
"	Santras.	5	20	23-14-0	0-1-0	0-26	0-5-0	1-30	0-1-0	0-26
	Total	32	211	229-2-0	0-14-6	(0-39)	2-0-0	(0-87)	0-14-6	(0-39)
1931	Mosambis.	4	18	24-8-0	0-2-0	0-51	0-4-0	1-02	0-2-0	0-51
"	Pomegranates.	9	32	30-1-0	0-4-6	0-93	0-9-0	1-86	0-4-6	0-93
	Total	13	50	54-9-0	0-6-6	(0-74)	0-13-0	(1-48)	9-6-6	(0-74)

On the other hand, in another lot, the details of other expenses were shown, but no charge was made for the commission proper. In this case, the salesman used to charge the commission to the buyer, as in the wholesale dealings in figs and lemons at the Poona market. This, of course, makes no difference in real costs, but only in accounting. It is not known, however, whether this would lead some growers into believing, that the particular commission salesman's terms were comparatively favourable. In the following table (XV), we present a detailed analysis of the various items that make up the other expenses of the Sholapur commission salesmen.

The burden of the transportation charges, exemplified in the instances of both the Bombay and Sholapur sales accounts, is for comparatively short distances. There can be little doubt, that it would work out to be much higher with longer distances. We did not get a large number of sales accounts, representing markets far away from Poona, mainly because growers or pre-harvest contractors do not usually consign produce to very distant markets, on their own account. The following analysis of 8 sales accounts from Belgaum will show, how the transport costs rise rapidly with increasing distances. These sales accounts represented consignments of mosambis, made in 1931, from Rajewadi station (distance upto Belgaum, 221 miles) and consisted of 28 baskets. The total selling price was Rs. 32-14-0, of which the total bill of hundekari (not including road transport) was Rs. 11-2-6, and the commission salesman's bill Rs. 3-11-0. The first represented 33.9 p.c., and the second 11.2 p. c. of the total sale price. In the Hunderkari's bill, railway charges amounted to Rs. 8-12-0, which was 26.6 p. c. of the sale price. In the commission salesman's bill, the octroi figure was As. 15, and the local carting charges amounted to As. 13-6.

(iv) *Road Transport and Octroi charges* :—We may now turn to an analysis of some of the other marketing costs which have not been covered by the tables given above. The most important of these are road transport charges and the octroi duty wherever it is levied. Certain aspects of both these, we treat in detail, in the chapter on transportation. At this place, we are concerned only with the actual costs incurred as disclosed from the sales accounts. In the case of the Bombay sales accounts, the road transport charges could be ascertained only in those cases, in which they had been paid by the forwarding agent; and in the case of Poona, when they had been paid by the commission salesman. As this did

not happen in a large number of cases, the data with us, covering this point, are not considerable. We present below (Table XV) such statistics as are at hand, and they may prove to be of some interest.

Table XVI

Road Transport charges, as shown in certain sales accounts of mosambis consigned to Bombay.

No. of sales accounts	Total selling price.	Road transport charges upto railway station.	Percentage of col. 3 to col. 2.
28	730-2-0	28-1-0	3.8

All these consignments were transported from Walunj to either Rajewadi or Hadapsar i. e. distances of from 15 to 20 miles. All the sales accounts, taken together, represented a consignment of 65 boxes and 22 baskets of mosambis; and the total railway charge on them, from the railway stations to Bombay, came to Rs. 86-3-0. The total transport charges i. e. the road, the railway charge and the forwarding agent's bill on these consignments, came to nearly 17.4 p. c. of the total selling price. We also came across one lot of four sales accounts, which afforded instances of transport by motor lorry direct to Bombay. All the consignments, together, represented 99 baskets of oranges, sent from Khed to Bombay in 1930. The total selling price of the lot was Rs. 128-4-0; and the road transport charge came up to Rs. 24-12-0, which was 19.2 p. c. of the selling price.

Similarly, in a few Poona sales accounts, road transport charges were shown. These have been analysed in the following table.

Table XVII.

Road Transport charges as shown in some sales accounts relating to the Poona market.

No. of sales accounts.	No. of baskets.	Distance from Poona (miles).	Fruit.	Total selling price.	Road transport charges.	Percentage of col. 6 to col. 5.
12	321*	23	Figs	91-1-3	8-6-9	9.2
7	94	58	Santras	183-8-0	19-1-0	10.4
3	39	58	Mosambis	72-5-0	6-1-6	8.4
3	59	13	Pome-granates	29-11-3	5-4-0	17.7
1	51	58	Santras	61-1-0	6-1-3	10.0

* Weight in sers.

The actual freight, charged for the consignment, is not the only expense to be borne in respect of transport of goods to Poona. Very often the grower or his representative accompanies the consignment; when the transport is by bullock-cart, this may mean no extra expense. But if it is by motor lorry, it adds considerably, to the cost. Thus, from a series of 5 sales accounts which contained entries regarding this item also, we gathered the following information. This was a case of mosambis consigned to Poona from Kedgaon (distance 36 miles) by motor lorry. The total selling price of all the consignments was Rs. 90-4-0. The transport of the goods, which was packed in gunny bags, cost Rs. 3-14-0 i. e. 4.3 p. c. of the selling price; while the travelling charges of the man, accompanying the consignments, were Rs. 4-8-0 i. e. 5.3 p. c. of the selling price. It should be noted, that in three out of these five cases, a single journey only was charged for; and in the remaining two cases, a charge was made for the return journey also.

Another extra cost, for which calculations may be made, is the octroi. This is not charged at Bombay, but is charged at most of the other cities. We can obtain some idea of the burden of this charge at Poona, through some of the sales accounts. In six sales accounts of mosambis, which were sold wholesale for Rs. 91-7-0 at Poona, the octroi charge is shown to be As. 13-6. This comes to about .93 p. c. of the total sale price. In a lot of 44 sales accounts of pomegranates, which were sold for a total of Rs. 413-9-3, the octroi comes to Rs. 23-0-0 i. e. 5.6 p. c. of the sale price. It is obvious, that as the octroi is charged at the same rate for all fruit, it falls comparatively heavily on inferior fruit, and tends to grow proportionately less, as the consignment becomes larger. The octroi charge would work out heavily on small consignments of inferior fruit. The burden of the octroi charges at sholapur cannot be separately determined (see Table XIV above).

(v) Hawkers' dealings :- With regard to the costs of retailing, we have practically no information. The spread between the wholesale and retail prices may be estimated by the difference between these two sets of prices. But we have already explained, how difficult it is to estimate the wholesale prices, chiefly because the wholesale lots or packages sold are of a mixed character. We could obtain no information from the retail-stall holders; but, in many instances attempt was made to obtain some information from hawkers. Even from this class, however, the details of past transactions could not be

learned; and there was nothing available in the way of accounts. The method, that was found most helpful, was for the investigator to accost a hawker immediately after he had made his wholesale purchase for the day, analyse his purchases and ask for his estimates of the retail sale of the lot during the course of the day. The investigator was, because of his knowledge of the day to day prices, able to check these estimates of the hawkers; and the only element of uncertainty, remaining in these calculations, was the extent to which the hawker would be able to work upto or beyond his estimates. The daily purchases of these hawkers range in value from Rs. 2 to Rs. 5, and they estimate the net daily earnings at from As. 10 to Re. 1. They do not usually carry over their stock from one day to another. The hawkers, as a class, present instances of cases, where the costs of retailing are the least. They deal only in the average kind of fruit, for which there is a large demand, and they have no establishment and other expenses to bear. The margin in the case of superior fruit and in the case of stall-holders would be very much larger. We give below only a few typical instances of these hawkers' dealings.

Guavas :—One *hara* (big basket) of guavas contains usually about 375 fruits. One retailer purchased such a basket on 9-12-31 for Rs. 1-6-0. This was examined; and it was estimated, that taking into account the various grades of fruit, the total would be retailed for about Rs. 2-6-0. This retailer rented daily a small pitch in the market, for which he paid a daily rental of As. 2 and where he retailed fruit till 12 noon. He would later on hawk the fruit on the streets. According to the above calculations, his margin of earnings for the day would be about As. 14.

Naspatis :—One hawker bought a basket of naspatis on 11-8-31, containing 12 doz. fruits for Rs. 4-8-0. The fruit could be distinctly graded into 3 grades—4 doz. large, 6 doz. medium, and 2 doz. small. On current prices, it was estimated that the lot would bring in, by retail, Rs. 5-4-0. This would leave a margin of As. 12 to the hawker.

Mangoes :—One hawker purchased two baskets of grafted mangoes from Ratnagiri, containing $3\frac{1}{2}$ doz. of fruit each, for Rs. 2 per basket, on 27-5-32. One dozen fruit from the two baskets together, was found to be spoiled. The rest could be fairly evenly divided between three grades. According to calculation, the hawker would be able to sell this fruit, by retail, for a total sum of Rs. 6. This could

leave him a margin of Rs. 2 over the purchase, if he was able to sell the two baskets in a day. This is an extraordinary margin, to be found rarely, and only in the case of costly and fancy fruit like this.

We may also cite an instance of a hawker dealing in a mixed lot of fruits. One hawker, hawking the fruit chiefly in the Poona cantonment area, had purchased for the day, on 30-11-31, the following, lots of fruit. Guavas, 3 doz. for 0-7-6; mosambis, 1 basket ($3\frac{3}{4}$ doz.), Rs. 2; bananas, 5 doz., 0-12-6. It will be observed, that this hawker was able to buy only mosambis, in a wholesale unit. The total purchase price of the lot was Rs. 3-4-0. He expected to dispose of it in the following manner. Guavas, As. 9; mosambis, Rs. 2-8-0; bananas, As. 15; total Rs. 4. The margin estimated is thus As. 12.

A final example may be given of what may be called, jobbing combined with hawking, in the sale of bananas in the district. In November 1931, one small trader purchased three "thousand" bananas at Walha. In actual count, a "thousand" meant 1580 bananas. He carried these in a bullock-cart to Bhor, a distance of about 25 miles; and sold them there, and on the way, at Shirwal and at the Bhatghar dam, partly wholesale and partly retail. The purchase price was Rs. 5-12-0, per thousand i. e. Rs. 17-4-0 for the three thousand. The cart hire for the trip was Rs. 5, and the octroi charges on the way, As. 5. The sale of the bananas was effected in the following manner. At Bhor one thousand bananas were sold wholesale for Rs. 10; and 750 and 500 bananas sold retail at the rate of As. 4 and As. 3 per doz., respectively. At Shirwal, one thousand bananas were sold for Rs. 9, on the outward journey. And on the return journey, 500 bananas were sold retail at the rate 12 As. per hundred; and 500 bananas were sold to labourers on the Bhatghar dam, at the rate of 12 As. per 100. The total receipts were Rs. 48-15-0; and the trip may be said to have occupied two days. The profit on the whole transaction would be in the neighbourhood of Rs. 25. This case is not to be taken as representative of the local sale business, because this type of trader is not common; and the opportunities for profit are not always so considerable.

No generalisations are, of course, possible from the above instances. They merely present some instances of the variety of dealings of this type; and so far as the hawkers go, it could hardly be said, that their margin of profit is excessive.

CHAPTER VI.

Transportation.

(i) *Railway facilities*:—The principal means of transport in the district are the railway, the motor-lorry, the bullock cart and human labour. The two principal railway administrations that serve this district are the Great Indian Peninsula Railway and the Madras And Southern Maratha Railway. The G. I. P. Railway (broad gauge) traverses the district from west to east; and the M. S. M. Rly. (metre guage) starting from Poona traverses it, towards the south. There is also a short-gauge line, within the district, between Dhond and Baramati. The total railway mileage in the district is as follows. G. I. P. Railway, Khandala to Dhond—89 miles ; M. S. M. Railway, Poona to Nira—48 miles; Dhond to Baramati—27 miles; total 164 miles. It is obvious that it is railways that have made possible the long distance transportation of fresh fruit and vegetables. We have already quoted the Gazetteer in a former chapter, to show how the construction of the railway stimulated trade in perishable articles, with Bombay. The consignment of produce to distant provinces, of course, depends entirely on the efficiency of the railway service; and it is only the extension of railway communications that has made possible the development of the fruit industry in the district, and its continued expansion.

Fruit is carried, on Indian railways, usually by the passenger or the express parcels trains. It is only in the case of very hardy fruit, that fruit may be booked by the goods trains. Of fruit exported from the Poona district, it is only country mangoes, that are sometimes despatched by goods trains.

One of the fundamental defects of the railway system, as it has developed in the district, is the diversity of gauges. The most considerable disadvantage, that this means for the fruit of the district, is the necessity of transshipment of produce at Poona for produce from stations on the M. S. M. Railway (chiefly from the Purandhar taluka), when being carried to Bombay or other centres served by the G. I. P. Railway. Transshipment means both delay and damage to produce. If this is to be avoided, the produce has to

be carried by road to Hadapsar and booked on the G. I. P. Railway there. This means, on the other hand, a considerable addition to cost of carriage, on account of the longer road haulage.

The efficiency of the service rendered by the railways may be examined under the following heads: (i) loss or damage in transit and (ii) train service. Damage to fruit in transit may be due to lack of proper protection from heat by means of ventilation and refrigeration; or it may result from rough or careless handling or stacking. As regards ventilation, the supply of specially ventilated fruit vans continues even to-day to be inadequate, in spite of the considerable reduction in fruit traffic, that has of recent years taken place. We were told by a prominent forwarding agent, that it happens at least three to four times in a month, that fruit and vegetables have to be transported through ordinary goods wagons, by the parcels train from Poona to Bombay.

Provision for refrigeration of fruit is made nowhere on the Indian railways, excepting the North-Western Railway. The advantages that would result to the fruit trade, from the installation of refrigerator cars, are obvious. In short, this provision would extend considerably the time and distance, over which fruit could then travel and would thus bring far-away markets within the ambit of the grower. Among Poona District fruit, figs, for example, would most considerably profit from the installation of refrigerating apparatus on trains. Even now, figs are sent from Poona as far as Madras, Bellary, Cuddapah etc.; but, this is done only with great difficulty. In the absence of any facilities for refrigeration, this fruit has to be picked somewhat unripe, lest it should spoil before reaching its destination. But the prematurely picked fruit does not ripen properly; and, therefore, does not fetch as high a price as fruit of the proper maturity would yield. Figs are, in India, almost a monopoly of the Poona District; and good fruit, if it reaches distant markets in excellent condition, is bound to fetch very high prices. This will extend the cultivation of figs in the district and profit growers in the favoured parts enormously. In cases like these, the traditional unenterprising attitude of the railway companies stands in the way of experimentation and innovation. A proposal for the installation of such facilities as refrigeration is bound to meet with the reply, that the existing traffic is too small to warrant incurring the expenditure involved. And obviously, so long as the

facilities are not provided, it is impossible that this traffic should increase. We are thus, in face of the attitude of the railway companies, reduced to a position of deadlock. It is for growers, in such instances, to act together and produce a large public demand; and it is also the business of the agricultural departments, as the Agricultural Commission have put it, to "interpret to the railway authorities the requirements of the growers."¹ We have cited particularly the case of figs, as it is unique; but, other Poona fruits such as oranges, guavas, papayas etc. are also in a position to profit from refrigeration facilities. With small shipments, the provision of refrigerator cars may not be possible. But the possibilities of providing refrigeration facilities of smaller size, such as that provided by the "pony refrigerator"² ought to be explored.

As regards damage to fruit by rough or careless handling or loss of fruit by pilferage, we had not much direct evidence from the growers themselves. A number of our grower respondents sold their orchards to pre-harvest contractors. On the other hand, those, who consigned produce to commission salesmen at the principal city centres, have long been habituated to accept reports from the salesmen of damaged packages and spoilt fruit, as normal and inevitable. The reports of the commission salesmen may be true and the railway authorities be responsible for the damage; or such a report may be merely a ruse, on the part of the salesman, to justify the return of low prices. In either case, the consignor feels himself in a helpless position. It would not profit him to question the truthfulness of the salesman's report; and it would be equally idle to complain to the railway authorities. In a recent conference, held by government in Bombay regarding these matters, it was reported that the representatives of the railways maintained, that there was no rough handling of fruit on the railways, as they received so few complaints in this behalf. This, of course, is entirely ignoring the position that railway administration occupies in the eyes of the average Indian. It is looked upon as a quasi-government department; and by that analogy and by experience, it is generally held that it is useless to complain regarding anything happening on the railways, especially if the complaint is to lie to the railway authorities themselves. The individual grower, therefore, never attempts to protest

1 Op. cit, p.378

2 Ref. U. S. D. A. Farmers' Bulletin No. 1579, Containers used in shipping fruits and vegetables, p. 10.

against the mishandling of produce; but this should not be taken as proof of the non-existence of rough handling.¹

As a fact, we had direct evidence from merchants and especially from forwarding agents, to show that railway employees handle fruit baskets, while loading and unloading, very carelessly and give no attention to the delicate nature of the contents of the packages. Apart from this direct evidence, there is also indirect evidence available on this point from two directions. The first is the anxiety shown by a large number of growers, who would normally book their produce on the M. S. M. Rly. stations, to book it at Hadapsar, when it has to travel by the G. I. P. Rly. This is almost entirely due to their fear of damage to goods in trans-shipment and their desire to avoid this. Secondly, there is the recent movement, amongst especially the orange consignors, to substitute the box instead of the basket though the box is not a cheaper package and is, in some ways, more unsuitable than the basket. Our enquiry in this matter, both among growers and forwarding agents, yielded the reply that this movement was almost entirely due to the anxiety to minimise damage to fruit in transit.

In addition to damage in handling, damage may also result from faulty arrangement of baskets in tiers in the vans, or the lack of proper support or bracing for the baskets. This may dislocate the tiers and cause the baskets to tumble down and lie in a disorderly manner in the van. Damage of this nature is most likely to be caused when the fruit vans are not provided with proper shelves. Until recently, vans having shelves were very few; and damage, under this head was frequently possible. We learn from a recent report of the Bombay Presidency Fruit Growers' Association, that the attention of railway authorities has been attracted to this deficiency, and that they are making attempts to remove this grievance.² Even to-day, however, the shelving arrangements are not general; and we were told, that it is quite usual, at times of heavy traffic, to take the shelves out and load the van fully in continuous unsupported tiers.

It should, of course, also be made clear that the consignors themselves are, a number of times, contributory causes of the damage to fruit in transit. Fruit may be packed, which is too ripe to stand

1 The absence of complaints is also due, largely to the universal prevalence of O. R. rates.

2 Report for the year 1932-33.

the journey; or, diseased or spoilt fruit may be packed with good fruit. The containers used may be frail or unsuitable, or the package may be overstuffed; a given amount of mishandling may cause considerable damage to such packages, and they may be damaged even without mishandling. Ultimately, of course, it is the growers that suffer; and that too doubly, because the uncertain position leads many a commission salesman to make returns regarding damaged produce, where there may be none.

As to loss of fruit due to pilferage, this also was a universal¹ and an equally philosophically accepted phenomenon, till a few years ago. We were, however, assured by a reputed forwarding agent, that the railway authorities had recently introduced a watch and ward department, and that this had considerably reduced the pilfering activities of railway employees.

Damage to fruit may also result from delay in transit on account of slow trains or their mistiming. In both these respects, however, no ground for complaint exists, so far as the movement of Poona fruit to Bombay is concerned.

(ii) *Railway rates*:—With regard to the cost of transport by rail, the Linlithgow Commission has remarked as follows, “Freight rates are ordinarily the heaviest single addition to the prime cost of produce exported by rail from the area of production. In a competitive market, they amount to a heavy charge on the gross price ultimately paid for the produce and, to the cultivator who is selling his commodity at a distance, they amount to a substantial portion of the price he realizes at the place of sale.” We have shown in the previous chapter how true this remark is, even when the distance over which the fruit is moved is so short as that from Poona to Bombay. We have also quoted there, similar percentages of costs from examples given by the Linlithgow Committee² and the opinion of that committee regarding what constitutes a fair charge to be borne by the fruit traffic. It is not possible for us to enter into the wide question, as to whether or to what extent the rates charged by the Indian railways

¹ See for example Howard and Howard:—‘Some improvements in the packing and transport of fruit in India.’ *Agricultural Journal of India*. Vol. VIII (iii), (1913), and also A. Howard:—‘Crop production in India, (1924), p.173.

² Royal Commission on Agriculture in India, 1928, pp. 377–78.

³ Ministry of Agriculture, Departmental Committee’s Interim Report on Fruit and vegetables, (1925). pp.33–39

are to-day justifiable. Neither do we believe, that a mere comparative table of rates, charged in different countries, will help. For, the conditions of working and the level of prices differ so much from country to country, that charges, that could be lightly borne in one country, may prove to be a crushing burden in another.

It is notorious that the rates policy, of the Indian railways, has been governed by the principle of charging high for a small amount of traffic,¹ rather than charging low for the purpose of developing the movement of goods. The peculiar position, that Indian Railways have occupied from the beginning, has made them ignore largely the type of commercial considerations that govern ordinary business and conduct their affairs in the manner of a secure and unenterprising monopoly. Even to-day, in the face of an increasing competition on the part of the motor lorry, the tendency is largely to seek means of killing this competition, rather than attempt to meet it by better and cheaper service. The pre-war Indian railway rates were admittedly on the high grade. They have, however, been considerably increased in the post-war period. The parcel rates, for example, stand to-day at a level of nearly 50 p. c. higher than those in 1917-18. Prices of fruit and other agricultural produce have crashed to-day to pre-war levels, or in some cases even lower; and yet in the parcel rates, the railways have shown no disposition to bring about any lowering. Not only is this so, but the 15 p. c. reduction, brought about in the parcel rates in 1929, was, in 1931,—at an acute stage of the price fall—cancelled, and the rates restored to the old high level. It is surprising to find the Chief Traffic Manager of the G. I. P. Railway, replying to a representation made by the Fruit-growers' Association, in this behalf, that "If it could be proved by *facts and figures*² that the existing rates prevent movement of traffic between specific points, he was prepared to consider the question of quoting suitable rates to suit special conditions." We have sufficiently indicated, in previous chapters, how it is impossible for any agency, other than the railway authorities themselves, to find out the character and extent of the movement of particular commodities on the railways, and how the railway statistical records are carefully guarded as business secrets. It would, under the circumstances, have been more convincing, if the

¹ Italics are ours.

² Report of the Secretary of the Association for the year, 1931-32.

Chief Traffic Manager had quoted facts and figures prepared in his statistical department to prove, that the increased rates were not diversely affecting the traffic, rather than challenge the other parties to produce data which they could neither possess, nor to which would they be given access.

While parcel rates continue to remain high, special wagon load rates, as between particular stations and as from particular stations, have always obtained in the past and have been recently greatly extended. On the G.I.P. Rly. system, these rates have been applied to fruits, chiefly in the Nagpur and the Khandesh areas. The export of oranges from the former, and that of bananas and oranges from the latter, takes place on a very large scale; and the wagon-load rates can there be taken advantage of. But these rates cannot profit the Poona growers. As we have pointed out in Chapter II, fruit production in Poona is neither so localised, nor so specialised, as to enable growers or merchants to take advantage of wagon-load rates (except in the case of country mangoes). In this it differs from the production in the Nagpur or the Khandesh districts. It seems, however, reasonable to expect, that the railways should pay some special attention to the needs of the small grower, who forms in India the bulk of the peasantry. Wagon-load rates can profit only the merchants, who assemble and bulk the produce; they can never apply to the case of growers. A discrimination of this kind, in rates, is thus a direct obstacle in the way of growers taking up the marketing of their own produce. One recent example of a concession shows at the same time that the railway authorities are ready to go even beyond the present policy, if pushed far by motor competition. In September 1932, the G. I. P. Railway declared a special rate of Rs. 1-2-0 per maund of fruit carried from Rahuri (Ahmednagar District) to Bombay. The rate according to the usual schedule was Rs. 1-7-0. The concession rate applied to all consignments, however small, and was put in force only to kill a motor transport agency that had sprung up at Rahuri for carrying oranges in truck-loads to Bombay. It is thus clear that there is no fixity of principles in the railway rate policy. In special emergencies any rate may be quoted; while, in the absence of competition, a policy of high rates and no concessions will be kept up.

Another remarkable feature of the Indian railway rates policy is that all the special wagon-load rates as well as even the ordinary

half-parcels rates on consignments of fruit are all owner's risk rates. Even the largest consignments obtain no concessions, if they are to be sent at railway risk; and the small consignments would have to pay a full parcel rate, instead of the half-parcel rate, if they are not sent at owner's risk. This large difference between the railway risk and owner's risk rates is entirely unjustifiable.¹ It does not obtain in other countries. For example, of the exceptional goods rates quoted by the Linlithgow Committee, as obtaining in England, only a small proportion are owner's risk rates.² Even in England, as the Linlithgow Committee records, the number of owner's risk rates was considered by some growers, as large; and many of them could not consequently take advantage of special concessions. In India, however, the *entire* fruit traffic has, because of the enormous disparity between the two rates, necessarily to move at owner's risk. This induces an attitude of negligence in the railway employees towards this traffic and renders the position of the consignors absolutely helpless.³

Our analysis of sales accounts from Bombay and Sholapur clearly shows, that even for comparatively short distances, the railway charges are too high, even for fruit. For longer distances, the railway charges must be taking up an overwhelming proportion of the total wholesale price; and for the vegetable traffic their burden must be much heavier than in the case of fruits. It is obvious that the traffic cannot bear these rates and they may thus be considered uneconomic. The high rates are certainly one of the greatest obstacles in the way of the extension of fruit cultivation. It is likely, however, that the rates policy of railways may change in the near future. This may happen because of two factors: (i) united action on the part of growers and consignors and (ii) competition of road transport agencies. It is, however, chiefly the latter which seems likely to affect railways immediately.

(iii) *Road Transport—the motor and the bullock-cart, and their charges*:—The railway system, as it has developed in this district,

1 It perhaps indicates the allowance that the Railway authorities think it necessary to make, for the delays in transit, and the mishandling and pilferage by railway employees.

2 Op. cit. Table XI p. 35.

3 For a detailed discussion of this question vide, S. C. Ghose :—*Monograph on Indian Railway Rates*, (1918), Appendix VIII.

leaves entirely untouched the northern talukas of Sirur, Khed and Junnar; and does not cover adequately the other talukas. Under these circumstances, without a considerable development of feeder roads, it is obvious that railway traffic could not develop and the railway facilities be properly utilised. The geographical formation of the Poona District favours generally the building of roads, and there is a fair mileage of metalled roads in the district. The mileage of metalled and bridged roads in the district was 210, and that of metalled but unbridged roads more than 400 miles in 1923.¹ It seems, however, that there has been a considerable decrease in the metalled roads mileage during the last ten years. The metalled and bridged road mileage is undiminished; but on account, it is said, chiefly of financial stringency, the District Local Board authorities have been unable to keep in repair the minor metalled roads. The result has been that a large number of them have deteriorated to the level of unmetalled roads. According to the latest statistics, supplied by the District Local Board authorities, there are in the district approximately 435 miles of metalled roads. This means that the mileage of roads metalled but unbridged, has decreased during the last ten years from more than 400 miles to less than 225 miles.

These metalled roads are the chief motorable roads; and it is along them that the main streams of traffic flow. But this system of main roads cannot by itself meet the full needs of the community; and the links, connecting the villages with the main roads of the railway stations (many of the smaller of these are not themselves served by or properly connected with any main road) are of the greatest importance. "The provision of excellent main roads adequate in all respects for every form of transport is of little benefit to the cultivator, if his access to them is hampered by the condition of the road which connects his village with them. What matters most to him is the state of the road between his village and the main road and his market."² This is specially true, when considering the transport of such delicate and perishable a commodity as fruit. The Linlithgow Commission, therefore, held that, "along with the policy of developing main roads should go that of developing communications between them and the villages which are not situated immediately on them."³ We were not in a position to enquire into the adequacy

1 Bombay Presidency Motor Guide (1923)

2 Agricultural Commission's Report, p. 373.

3 Ibid p. 373.

of village communications from this point of view,¹ but a recent governmental report has the following to say:² " In Poona district, alone there were said to be some 230 villages of 1,000 population and over, of which about 100 are not on any public road." It is not clear what is meant by a 'public road' in this sentence. But presumably it is a metalled or a D.L.B. road. Any way, this clearly exhibits the importance of link roads; for, if such a large number of even the bigger villages do not find themselves on public roads, the proportion must be much higher in the case of the small villages. The absence of even a mile or two of connecting communication must make transport extremely difficult and it is likely that there are villages in the district—especially in the transition tract where fruit cultivation has not developed properly because of this handicap. In the absence of a detailed investigation, it is not possible for us to say any more on this subject.

Apart from these connecting roads, the state of the main roads themselves may not be satisfactory. The major defect in their case is the general lack of bridges. The major part of even the metalled roads is unbridged and this means considerable inconvenience, especially during the monsoon months. The Bombay Presidency Motor Guide (1923) gives detailed information about the unbridged *nullahs* that may cause delay at times to traffic and we received many specific complaints from growers regarding some of them. For example, the absence of bridges at two or three places on the road between Talegaon-Dhamdhere and Poona is reported to cause a delay of 5 to 6 hours, when the *nullahs* are flooded on account of heavy rain. Such a delay of 5 or 6 hours means an effectual delay of about 24 hours and very considerable loss to the consignor. For, fruit which is picked in time to reach Poona station by the evening and Bombay the next morning for the regular auctions, may on account of the delay arrive at the station too late to travel by the night passenger or parcels train and may thus clearly lose a whole day. The absence of a bridge on the Karha is even a greater obstacle to growers in Purandhar taluka, as this renders the river impassable during the months of July,

¹ The mileages of unmetalled roads maintained by the District Local Board in the district is 1,377 and there are, of course, numerous other cart tracks.

² Report on Road and Railway Competition—By Mitchell and Kirkness (1933), (Report for the Bombay Presidency, p. 9.)

August and September for motor traffic at least. Even bullock carts may be detained at this place during these months for about 12 hours. Similar detention is caused to the Junnar banana carts by lack of bridges on the Poona-Nasik road, especially that on the river Kukadi at Pimpalwandi.

The road system was, before the advent of the motor, entirely complementary to railways. Since the beginning, however, of transport by motor-lorry, it has begun also to be competitive in some measure. The competition was during the earlier years confined to passenger traffic, but has now extended even to transport of goods. "The G. I. P. Ry. reports that considerable competition has sprung up in fruit, vegetables, and toddy by motor-transport between certain up-country stations and Bombay and, to meet this, special rates have been quoted by the railway. The railway has recently opened near the Reay Market, Poona, a receiving office for parcels, and this locality has been chosen because this market is the starting point of many of the bus-services."¹ We have already mentioned the case of the special rate granted from Rahuri to meet this type of competition. In the Poona district, the competition of the motor-lorry with railway, in transport of fruit, is chiefly in two directions: (i) the transport of fruit from the Reay market to Bombay and (ii) the transport of fruit from villages in the Purandhar taluka to Hadapsar or Poona. The first, it will be observed, hits the G. I. P. Rly. and the second the M.S.M. Rly. The lorry rates are much lower than those quoted by the railways; the usual rate for motor transport from Poona to Bombay being As. 12 to 14 per maund, as against the total cost of transport by railway which would amount to about Rs. 1-2-0 per maund. There is, in motor transport, the added convenience of a direct service and perhaps less damage and loss in transit. The motor lorry services are yet not well organised and there are difficulties, regarding bad or unbridged roads, or parts of roads being closed to traffic (especially between Bombay and Poona) at certain seasons etc., that the motor services have to meet. Even so, it is said, that they have considerably diminished the railway traffic in fruit and vegetables between Poona

1. Mitchell and Kikness:—Report on Road and Railway Competition, (Bombay Presidency, p. 15). At first the Railway used to charge an extra anna per package, for parcels received at the Reay market office; but even this charge has now been dropped.

and Bombay, though quantitative data on this point are hard to obtain. In the same way, traffic moving from the Purandhar taluka to Bombay tends now to travel very largely up to Hadapsar or Poona on the G. I. P. Rly. Even before the introduction of motor transport, a small amount of the produce used to be taken by bullock-carts to the G.I.P. Station of Loni, to avoid trans-shipping at Poona. But the extent of this was comparatively small and the area affected also limited in extent. With the possibility of rapid transport by motor-lorries, this area has been very considerably enlarged; and Hadapsar receives an enormous amount of Purandhar fruit for being booked to Bombay and other centres on the G. I. P. Rly. So far as the grower of fruit is concerned, the competition between the railway and motor-services is entirely beneficial in its results. He is getting from both, a cheaper and better service than before; and the railway authorities have, of recent years, begun to pay some attention to the interests and grievances of their customers.

While with the railway, motor transport may be said to be partly complementary and partly competitive; with bullock-cart traffic along the roads, it is entirely competitive. And with the extension of the carriage of goods by motor-lorry, it is feared that the days of the bullock-cart are numbered. At present, however, motor transport in the district has developed very largely in the direction of passenger traffic; and there are very few public conveyances specialised in the transport of goods. It is usually difficult to find suitable streams of goods-traffic both ways; and it is not usually possible to combine a one-way goods service with a passenger service the other way. The extent of motorable roads is limited; and a large number of them do not allow of the movement of heavy trucks. Thus, the main bulk of the goods carried by motor are as an additional freight and are a by-product of the passenger services.

It is obvious that motor transport has a great many advantages over bullock-cart transport. The chiefest of these advantages is speed. We have given instances above of the transport of strawberries from Mahabaleshwar or of mature figs from the Purandhar taluka to Bombay, which have been made possible only by motor transport. The motor-truck has undoubtedly given the extension of fruit cultivation a much wider field than before. It also means that fruit produce from the older centres of fruit production, reaches the market

earlier and in a much better condition than before. The sphere of competition between the bullock-cart and the motor-lorry may be indicated in the following manner. For delicate fruit, transported over long distances, the motor is the only possible means. Fruit like bananas or mangoes can, however, be transported over even long distances by bullock cart. For delicate fruit, a night's journey by bullock cart i.e. upto 20 to 25 miles, may be said to be the extreme limit of possible transport; but this range can extend upto 60 miles or over, in the case of hard fruit. Even within the 20 or 25 miles range, the difference between bullock-cart and motor may effectively mean the difference of one day, if the fruit has to be sent to a centre out of the district, like Bombay. This, for example, would occur in the case of a shipment of oranges from Talegaon-Dhamdhere or Shikrapur to Bombay. On the other hand, if the same lot is to be consigned to Poona, the difference in the time taken by the journey would not materially matter. The sphere of competition is thus determined by the distance and the kind of fruit. Beginning with figs at one end, the guavas and papayas may be classed as delicate fruit. Santras would come midway. While mosambis, pomegranates, water-melons, mangoes and bananas are able to stand fairly protracted journeys. Apart from this, another important consideration, that limits the extent to which the motor transport agencies can compete with bullock-carts, is the condition of the roads. Enough of this has been already said above to indicate the small extent of the road mileage to which motor traffic is limited and the obstructions to be faced by it even along these roads. Along some routes, therefore, motor transport is rendered altogether impossible; while in other cases, produce has to be carted from the orchard or the village of the grower for some distance to reach a motor route and be there shipped into a motor-lorry.

Within the sphere of competition, it is largely the comparative costs of transportation that would determine the division of the traffic between the two. We give below a table of charges for various distances by motor lorry and by bullock-cart, which would indicate the general position in regard to the costs of road transport and also the comparative position as between the two.

TABLE XVIII

Road Transport Charges (motor lorry and bullock cart.)

Fruit	From	To	Distance (Miles.)	By motor		By Bullock cart.*		Remark
				Per Basket	Per Box	Capacity	Charges per cart- load, for single journey.	
Or- angees.	Khed-	Poona	14	Rs. a. p. 0-2-0	Rs. a. p. 0-4-0	...	Rs. a. p. 2-8-0 to 3-0-0	
	Shivapur	Hadapsar	21	0-2-0	0-4-0	30 to 40 baskets or 15 to 20 boxes.	4-0-0	
	Khalad	"	18	0-2-0	0-4-0	" "	4-0-0 to 5-0-0	
	Saswad	"	18	0-2-0	0-4-0	" "	4-0-0 to 5-0-0	
	Sakurde	Jejuri	3	...	...	" "	1-8-0	
	Walunj	Rajewadi	...	...	...	" "	...	As. 1½ bkt.†
	"	Hadapsar	21	0-2-0	0-4-0	" "	4-8-0 to 5-0-0	
	Shikra- pur	Poona	22	0-1-0	0-2-0	50 bas- kets or 25 boxes.	2-0-0 to 3-0-0	
	Talegaon (Dham- dhare)	Poona	24	0-1-0	0-2-0	...	3-0-0	
	Walunj	Poona	25	0-3-0	0-4-0	16 to 25 boxes; 36 to 40 bas- kets.	4-0-0	
Guavas	Sakurde	"	28	0-3-0	0-4-0	...	3-0-0 to 5-0-0	
	Warje	Poona Market.	5	0-2-0	...	16 bas- kets	1-8-0	0-2-0 basket.†
	"	Bhambu- rda Stn.	5	0-2-0	...	...	...
	Nanded	Poona Station.	3½	...	...	16 bas- kets	...	0-4-0 basket.†
Grapes.	Chakan	Poona	19	0-2-0	...	...	2-0-0	

* The bullock cart here refers to carts drawn by a pair of bullocks, capacity of which is generally 1½ times that of a smaller cart drawn by a single bullock, used in some parts of the district.

† This is an exceptional rate met with by us particularly in this locality. This facility of a basket-rate for transport by bullock-cart is to be found in this trade, because there is a concentration of a number of small growers also because of the close proximity of it to Poona market or a railhead.

Fruit	From	To	Distance (Miles.)	By motor		By Bullock cart.		Remarks
				Per Basket	Per Box	Capacity	Charges per cart-load, for single journey.	
Pomegranates.	Theur	Poona	13	Rs. a. p. 0-2-0	...	...	Rs. a. p. 2-8-0	
Figs.	Sakurdo	Jejuri	8	...	...	50 baskets.	1-8-0	
"	Pimpale	Poona	23	0-4-0	...	24 baskets.	3-8-0	
"	Pimpale	Jejuri	10	...	...	...	1-8-0	
Mangoes.	Warje	Poona	5	...	...	...	1-8-0	
"	Khed-Shivapur	Poona	14	...	...	2000 to 2500 fruit of medium size.	2-8-0 to 3-0-0	
Bananas.	Walhe	Poona	35	...	...	7000 fruit nearly	7-0-0	
"	Ale	Poona	58	...	...	3750 to 4000 fruit.	10-0-0*	
"	"	Sangamner	...	...	...	...	6-0-0*	
"	"	Ahmednagar	...	...	...	...	9-0-0*	
"	"	Nevasa	...	...	...	...	14-0-0*	

Broadly, it will be observed, that the difference between the two is not material. For example, the cost of carrying oranges by a motor-lorry from the main road point near Talegaon-Dhamdhere or Shikrapur on the Poona-Ahmednagar road is roughly one anna per basket, whereas the cost of carrying a full load of 50 orange-baskets by bullock-cart over the same distance would be Rs. 3. In this instance, the distance from the actual orchard to the main

* These charges are for return trip, and not for a single journey as in all other cases mentioned in this Column.

road, which may be anything from 2 to 4 miles, will still have to be covered by bullock-cart, when the transport is by motor-lorry. The chief reason why transport by motor is so cheap, is that the carriage of goods like fruit baskets is a mere side activity of the motor-lorries. Their main business is passenger traffic and they do not count upon the incidental income from carriage of goods, as a regular receipt. The top of the lorry, or when the number of passengers is small, even part of the space inside, may be used for the carriage of such miscellaneous freight as may be available on the wayside. On all established routes the competition of these passenger vehicles with each other is very keen and a considerable number of them is regularly passing to and fro along the road. It is thus that motor transport for a small number of packages of fruit along regular routes is cheaply available. All the rates quoted in the above table are for transport services of this character.

There are obvious limitations to the transport facilities thus afforded. In the first instance, they are available only along the main established routes of passenger traffic, such as Junnar-Poona, Ahmednagar-Poona, Indapur-Poona, Saswad-Poona, Satara-Poona and Sinhgad-Poona routes. The consignor has to bring his packages on to the main road by bullock-cart, if he is a considerable distance off, and wait for passing motor-lorries. He has to hail such of them as have room and bargain for the carriage of his packages. Obviously such cheap transport could be easily arranged only for a small number of packages. For a large consignment, this method will not do. Large consignments could be carried by motor-lorry, only if a carrier specialised in the transport of goods, or if a lorry was arranged specially on each occasion. The latter method would be too costly, and there are no specialized carriers of goods in the district, though spasmodically and at certain seasons, lorry services of this type do spring up. These, however, cannot be depended upon, as a matter of course.

On the other hand, consignment by bullock-cart works out to be costly, unless the number of packages to be sent are almost a full cart-load. There is no co-operation between different neighbouring growers regarding transport by bullock-cart and the unit available for hire for each grower is only the entire cart. There operate in the district usually two types of carts. A small cart drawn by one bullock and a bigger one drawn by a pair. The difference in the capacity of these two is in the ratio of 3 to 2 ; and

there is naturally a corresponding difference between the freights. It is not, however, possible in all places and at all times to hire the smaller type of bullock cart. Along routes, not passable for even carts—the chief among which is the Babdeo Ghat route—ponies are used for the purpose of transport.

An additional consideration in comparing the costs of bullock-cart and motor-lorry transport is the extra services that the cartman performs. The cartman would arrive at the orchard of the grower, in time to help in packing the fruit in the baskets and in sewing on the lids to them. He would then load the cart himself and carry it directly to either the warehouse of the commission salesman or the market. There he would unload the cart and carry the packages into the warehouse or on to the pitch of the salesman. He would, a number of times, watch the sale and carry the sales account and, perhaps, even the cash back to the consignor; and he invariably carries the returned empties free of charge.¹

For large consignments for short distances, and in cases where time is no great consideration, the bullock cart has obvious advantages. Bananas travel over even large distances. The pre-harvest contractors in Belhe, Ale and Rajuri have always full cart-loads of bananas to carry. It costs them Rs. 10 per trip, per cart-load (both ways). They have to pay the freight of the cart for the return journey also; and in order to cover a part of this cost, they arrange with local grocers to carry some of their supplies from Poona. In the case of small consignments on established routes of passenger traffic, for growers who are not far away from these roads, the lorry, on the other hand, has obvious attractions.

To measure the extent to which motor-lorries have made head-way in the transport of fruit by road, we got compiled from the octroi records of the Poona city municipality, statistics of such transport for a few months during the year 1932. From these we found that the Octroi nakas, through which the larger part of motor traffic passed, were the Hadapsar and the Yerwada nakas. The first represents the joint stream of traffic along the Sholapur-Poona and Saswad-Poona roads, and the latter the goods imported from Sirur taluka along the Ahmednagar-Poona road. These were the two important streams. Certain amount of motor traffic came

1 The motor-lorry charges something for the carriage of returned empties. The usual charge from Poona to Talegaon-Dhamdhere is, for example, As. 6 to As. 8, for a hundred baskets.

in also through the Dapodi, Swar Gate and the Vithalwadi nakas, which represent respectively the traffic along the Junnar-Poona, Satara-Poona and the Sinhgad-Poona roads. The Octroi records were not to be had exhaustively for all the months and hence no definite proportions can be given. An examination of such figures as were available, however, indicated that of the total amount of fruit coming into Poona by road, about one-fifth came in by motor-lorry. The proportions would differ widely as among individual fruits. While the amounts would be negligible in the case of bananas and mangoes, they would be very high in grapes, figs, oranges and pomegranates.

We have discussed, so far, the various transport agencies and the services they perform. Their costs have also been discussed partly in this and partly in the preceding chapter. The problem of effecting economies in the cost of transport is a problem relating to the attitude of the railway authorities and the possibilities of organisation and co-operation among growers. The ways in which growers could save on transport items, such as by the formation of bulking societies, will be discussed in a later chapter. The possibility of doing away with the forwarding agent is also dependent on the development of co-operative handling of the produce by growers.

(iv) Octroi:—Another item that figures among the costs of transport, is the octroi duty. This is not levied in Bombay, but is levied in most of the other cities like Poona, Sholapur etc. The rate at which it is levied in Poona is one anna per maund of fruit. For purposes of ready calculation, the capacity of a cart drawn by two bullocks is taken to be 16 mds.; that of a small cart drawn by one bullock, 8 mds. and that of a pony, 3 mds.; and the octroi charge is levied accordingly. A headload of fruit is considered to be equivalent to one maund and as all headloads liable to a duty of less than As. 4 are exempt from the duty, headloads of fruit are never charged any octroi. The extent of the burden of the octroi has been indicated in the last chapter. Octroi being an integral and an important part of the finances of most municipalities in the Presidency, we shall not, here discuss the possibility of an abolition of this charge. We have however, to draw pointed attention to certain improvements that should be effected, regarding refunds of duty that may be made. At present all produce entering Poona city, whether it is for sale in

1. In Sholapur there is no provision for the grant of a refund.

the city or whether it is merely in transit to, say, the railway station, is liable to the octroi duty. When a consignment is in transit, it is given an export pass at the export naka and, on application made to the chief officer, a refund can be obtained on the evidence of the export pass. The duty collected on goods in transit is treated merely as a deposit. Regarding the refund of duty on goods, not in transit, the main condition is that "Each item of export on which refund is claimed must be bonafide one consignment, made by one man, to one man, at one place, on one day, and must form part of one imported consignment. Each import bill shall, for the purpose, be reckoned as one consignment."¹ Further, no refund on exported goods is made, unless the amount of the refund would be a sum not less than one rupee. All refunds are subject to a deduction of ten percent. In the case of fruit the most important question regarding refunds is that of refunds on goods in transit. We have seen, how a very large portion of fruit consigned to Bombay passes through Poona City directly to the railway station. There is no reason why the consignor should, in such a case, have to pay the octroi duty as he does at present. What prevents him from getting a refund at present, is evidently the one rupee rule. We have given figures elsewhere² to show that, even in the case of large consignments, refunds are not obtained. Whatever that may be, refunds should be granted easily on all consignments—whatever their size—when in transit. Even the present by-laws lay down that, "the Chief Officer or if authorised by him, the Superintendent of Octroi, shall have power to make refunds on goods in transit to any extent irrespective of the limits laid down, as the refund in such a case is *ipso facto* a refund of *deposit made* and not a refund of the duty paid."³ This provision does not seem to be known to consignors and, to our knowledge, has never been taken advantage of, in the case of fruit. Further, if the municipality treats the payment of octroi on goods in transit as merely a deposit, there is no reason why its refund, outside the limits, should lie within the discretion of the chief officer. All such refunds should be made as a matter of course. We recommend, therefore, that this byelaw should be suitably amended and its provisions made widely known.

1 Note (6) to Octroi Schedule A.

2 See ante, p. 32.

3 Octroi Byelaw No. 18.

CHAPTER VII.

The Preparation of Fruit for Market.

(i) *Introductory*:—In the chapter on supply and production of fruit, we have already noted the inferior quality of a considerable quantity of Poona fruit. In analysing the costs of distribution also, it was seen how heavily all distributive charges bear on fruit which is of an inferior quality. One of the chief ways, therefore, in which to place the fruit industry on a sound basis, is to pay a great deal of attention to the various cultural problems connected with fruit growing. Not only is this necessary, in the case of the admittedly inferior type of Poona fruit, such as guavas and pomegranates, but also in the case of the better quality fruits, such as oranges and figs. From the marketing point of view, the ultimate goal of all such cultural research should be the establishment of a series of standard commercial varieties of fruit. We read in a report by the English Ministry of Agriculture and Fisheries, "In selecting varieties for commercial fruit production, it is necessary to take into account the time of bearing and the productivity of the tree or plant, and, in regard to the fruit its suitability for grading, packing, transport and storage, and, what may be termed, its selling capacity."¹ It is no exaggeration to say that, in at least the Poona District there is no recognition and classification of the different varieties of individual fruits that may be grown; and the market has no knowledge of the varieties that may exist. The orchards are planted in a haphazard fashion, usually with plants supplied by the nearest big grower; and no data are available to the grower, on any one of the various points mentioned in the sentence quoted above. In some localities particular strains may become established and sometimes gain market recognition. But as no work has been done in standardising the commercial varieties, ascertaining their various qualities or preventing their subsequent deterioration, individual growers have to depend on the accumulated experience of themselves and their neighbours, and on methods in which a large amount of guess-work necessarily enters.

English Ministry of Agriculture's Report on the Preparation of Fruit for Market. Moo. Series, No. 21, Part I, (1928), p. 7.

(ii) *Extent and Character of Demand*:—It should be recognised, that varietal standardising and a definite production and marketing programme could only be based on a careful analysis of market requirements and the nature of the public demand. The consumers' preference should determine the trend of production; and it is also necessary to know what premium a given higher quality is able to command in the market. It is as a necessary consequence of the lack of standardisation and grading, that the public demand, even in our major cities, has not become either so well-defined or so refined, as in the other countries. In the country side, a quality market can be said to be non-existent; and even in the cities, it is developing only slowly. In this country in particular, it has to be remembered, that the bulk of the demand is from a class of people that is very poor; and in catering for the market demand, a sharp distinction may sometimes have to be made, between the poor class and the higher class demand. This may best be illustrated by the case of bananas. In the Junnar taluka, the two main varieties of bananas grown are the 'kali' and the 'soni.' The former is a much bulkier, but in other respects, a much inferior fruit to the latter. It has a very large demand from the cultivating and labouring classes generally, because of the larger proportion of food-substance contained in it. This preference is strikingly shown by the fact, that while in Poona the retail price per dozen for the two varieties is usually the same, in the country side the 'kali' fetches a higher price. In Poona city, the demand of the middle and richer classes for the 'soni' balances the demand on the part of the poor for 'kali'. This same factor may be seen operating in other directions also. Thus, the superior or 'kagdi' variety of custard apples has a limited demand at high prices; but, the bulk of the demand from hawkers and others is for the inferior and small-sized fruit which can be sold normally at one pice per fruit. The major demand, therefore, in India is for cheap and bulky fruit. There is, on the other hand, a growing quality market in cities, in which even imported high-grade fruit is being consumed; and here, the opportunities for the grower of high class fruit are considerable. If figs of a picked quality are attractively presented, they are sure to command high prices in most urban markets in India, chiefly because they are so rare. Consumers' preferences in regard to most of the fruit are also quite pronounced. A pale yellow or orange-coloured mosambi with a thin skin is distinctly preferred to others. An elongated

and seedless papaya fetches a high price; and so does a custard apple with a thin skin and large eyes, when it is perfectly mature. During the course of our investigation, we had, of course, not been able to give much thought to the character and extent of the consumers' demand. And we know nothing of the quantitative aspect of the consumers' preferences, as reflected in the level of prices. A detailed investigation of this question must, however, go hand in hand with the attempt to determine and standardize the commercial varieties of fruit in India.

With consumers' preferences is also connected the question of the total extent of the demand. The figures regarding the imports of fruit into Poona have already been given in Chap. I; and the extent to which export probably takes place from Poona has also been indicated there. It is impossible to calculate definitely the quantity of fruit, which is retained in Poona for consumption. We, however, estimate, from the information available, that from 80 to 85 thousand maunds of fruit is, on an average, annually consumed in Poona City, giving an average for the city, with its population of 2½ lakhs, of 1 oz. of fruit consumed per head, per day. Amongst this retained consumption, bananas are overwhelmingly the most important; at a long distance after, would come mangoes and melons; and guavas, oranges, figs and pomegranates would next rank equally, together. The present consumption of fruit amongst our population is notoriously too low. In attempting to stimulate it, the facts as to what extent fruit is consumed by the poorer, the middle and the richer classes, and what fruits have a purely urban demand, must be carefully studied. And even among urban demand, distinction must be made between Poona and Bombay demand; for, the highest quality market is almost non-existent even in Poona.

(iii) *Picking* :—The thinning of fruit crops, which has been considered as an essential market preliminary, is, to our knowledge, not practised by any grower in the district. It is no wonder that with the close plantation of fruit trees and the absence of thinning, the quality and size of the fruit should remain very poor. More directly concerned with marketing are the operations of picking, grading and packing the fruit, than that of thinning. In a competitive market, not only must your fruit be of a high quality, but it must also reach the market in good condition and be presented

attractively to buyers. These latter factors depend vitally on careful picking and grading and a suitable packing of the fruit.

In picking, attention has chiefly to be paid to careful handling of the fruit at the time of picking and to timing the picking, so as to enable the fruit to reach the market in a proper condition. The first is a question of skilled labour and suitable equipment. It was not possible for us to enquire into the conditions under which picking is carried out; but the state in which a lot of the fruit arrives at the market, indicates careless handling at the time of picking, as one of the contributory factors. The second question has at least two aspects. Firstly, it depends on the standardisation of varieties. Varieties, in which fruit may stand storage, and varieties in which it has to be marketed direct from the trees, have to be separated; and their adaptation, as for the more distant or the nearer markets, to be effected. Secondly, growers must get into touch with the salesmen and ascertain whether the fruit despatched arrives in an overripe or an immature condition. At present, however, the relations between the two are so distant, and there are such a variety of factors contributing to the arrival of fruit at the market in an unsatisfactory condition, that in the absence of organised attempts, improvement in the timing of picking, from this source, is not to be expected. This is, however, for some fruits at least, an extremely important problem. Figs and guavas are both very delicate fruits. They will neither keep on the trees for any length of time, nor can they stand any considerable interval between picking and marketing. For a distant market like Madras, figs have to be picked at a somewhat immature stage, resulting in a considerable loss of quality in the fruit. Investigation in such cases is of special importance. The problem of mosambis is in a class by itself. Here the difference between fruit which has ripened within ten months, and one which has taken fifteen months to ripen, is considerable both in quality and price. Hence, the determination definitely, of ways and means by which to postpone or draw near the time of picking the fruit, means much to the owners of orange orchards. At present the methods practised are haphazard and do not always give satisfactory results. There are some seasons of particularly high prices, and the ability to time picking, so that fruit will reach the markets so as to profit from the high prices, will be obviously of benefit to the class of growers.

(iv) *Grading* :—No grading is practised by the Poona growers, in the sense of produce being classified according to fixed standards and being packed uniformly in packages. A rough classification of fruit, after it has been picked, is made in the orchard before it is packed. But the purpose of such a classification is not to pack the fruit uniformly, but to mix the different qualities in individual containers. In most cases the fruit is roughly graded in three classes. Oranges and pomegranates of only the first two grades are sent to Bombay, and the third grade is chiefly consigned to Poona; while in figs and guavas, all the grades are sent to both the places. But whatever the class of fruit consigned, the practice followed is always uniform and is the very reverse of grading. Each container contains a mixed lot; and, invariably, the worst and smallest fruit is placed at the bottom. Better layers follow and the packing is finished off with an attractive layer of large and choice fruit at the top. This is the universal practice. Only in one case, that of the country market at Pimple for figs, we were told that the fruit was classified in four distinct grades and was packed uniformly and was not topped. But even here, when the country buyers at Pimple have to send the produce to commission salesmen at Poona or Bombay, they repack, mix the contents and top! When at Poona fruit is exhibited on the floor in heaps for sale, the grades are not so mixed up as in the containers; but even here, topping is to a certain extent resorted to.

There is thus not only no attempt at grading, but a deliberate attempt is, on the contrary, made to mix up the grades. This, as exemplified especially in the method of topping, reveals a curious psychology. "It assumes," as the Linlithgow Committee remark, "a *naïveté*, gullibility and general lack of experience" on the part of the buyers, which are not their usual characteristics. This practice is really indefensible and it is, of course, bad business; for, the buyers are very well acquainted with it. The more is it resorted to, the "greater the allowances that will be made by the purchaser who naturally tends to base his estimates of value on his previous unsatisfactory experience."¹ With us, the practice is so wide-spread, that commission salesmen or buyers can never be sure of the quality of the entire consignment. This adds needlessly to

1 Op. cit. p. 97.

2 Ibid.

the risk and, therefore, the cost of the transaction ultimately, of course, devolves on the grower.

Before grading, comes the operation of culling i. e. removing all fruit which is unmarketable by reason of size, blemish, damage or malformation. This is usually practised by Poona growers; but there may be found in the district, some producers who pack a certain amount of even cull fruit in their consignments. The more advanced aspect of grading is the separation of fruit into classes or grades, which are alike within close limits, in variety, maturity, soundness, colour, size, weight, flavour, and freedom from blemish.

There are two stages involved in the establishment of standardised market grades. First, there is the adoption of the practice of classification of fruit according to quality by the growers, and that of packing each container with fruit of only one uniform class or grade. And, secondly, there is the standardisation of grades, which means the adoption of certain well-defined and uniform standards of grades by all growers in a tract. The first step, by itself, would not lead us, far enough. It will be helpful only in the establishment of mutual confidence between buyers and sellers, which is at present entirely wanting. It will enable buyers to know from one layer or a few specimens, what fruit they are bargaining for, and will establish graded prices in the wholesale dealings. But, so long as the grades of most packers are not uniform, the many advantages that flow from standardisation will not be available to the fruit industry. It is now widely recognised that, "standardisation is the first stage in the development of a rational system of marketing and any marketing organisation, to be fully successful, must have a standardised product with which to work."¹ Without standardisation, no market reform is possible. The commission salesman and his heavy charges are inevitable, as long as the produce is either ungraded, or not graded and packed according to definite, known standards.² Selling through agencies such as brokers' or dealing directly with retailers or consumers is only possible when marketing a standardised product. The charges of even the commission salesmen could be expected to be considerably lower, if the fruit they handle is of known standardised qualities. For the compilation of price statistics and

1 Empire Marketing Board. Report for the year 1931-32, p. 78.

2 Cf. J. E. Boyle's Marketing of Agricultural Products, (1925) p. 171.

the conduct of a market intelligence service also, standardisation is absolutely essential. It will make for definiteness in advertising and publicity campaigns. It is also obvious that the adoption of standard grades will have an important reaction on production methods; for, it is only when the grower begins to grade accurately, that he will realise what an amount of inferior fruit he normally produces.

It is not necessary here to enter into any detail regarding the advantages of grading and standardisation. The habit, however, of ungraded marketing is so old and well-established, that considerable organised effort will be necessary before it is rooted out. A great many growers, for example, readily admit the evils of topping. But they argue, that they must continue to top, as long as the others do so. For, if they give up the practice and pack their baskets uniformly, the buyers will still offer a price based on the top layer, as being the selected best. Any action, therefore, that is taken to combat the evil, must be concerted. In the Bombay Presidency, the only action along these lines, taken by the Agricultural Department, was a certain amount of propaganda undertaken for the first time in 1931, for persuading mango growers of Ratnagiri to grade their fruit. A leaflet¹ was published, in Marathi, drawing the attention of growers to the advantages of grading and describing the results of an experiment in the marketing of graded fruit, which showed that graded fruit fetched higher prices. At the same time, two graders were appointed and an agricultural organiser at Palghar was deputed to induce dealers at Ratnagiri, Malvan and Vengurla to grade their fruit under the supervision of graders. Grading-boards for three grades were devised and distributed to the dealers. And the graders affixed special grade labels to boxes packed under their supervision. The labels certified that the fruit was graded by the Agricultural Department and certified also the quality of all the fruits in the package. Nearly 2,000 packages of this kind were sent to Bombay from the three ports, in the season 1931; and the results obtained in the sales at Bombay were very satisfactory.²

Nothing of this character has yet been attempted in the Poona district. It is essential that, in the first instance, intensive propa-

1 Bombay Agri. Dept., Leaflet No. 1 of 1931.

2 "A Note on the Improvement of Marketing of 'Mangoes in Konkan.'" Poona Agri. College Magazine, July, 1931.

ganda by the fruit growers' associations, the Agricultural Department and the co-operative societies in the various tracts, must be carried out to impress on growers the advantages of grading. It would also be helpful, if commission salesmen could be induced to lower their rates slightly, for guaranteed, uniformly graded packages. Before any important advance can be made in this matter, it is necessary that the majority of, at least, the large growers should be persuaded that it is to their advantage to market uniformly graded produce.

Propaganda in this direction must be followed by devising standard grades for all the more important fruits and by legislation incorporating these standards. The Agricultural Department must work in collaboration with the fruit growers' associations for determining standard grades. Legislation has everywhere been found necessary to protect and enforce the standard grades and to put the standardisation on a national basis. The California Fruit and Vegetable Standardization Law (1919), the Canadian Fruit Act (1923) and the English Agricultural Produce (Grading and Marketing) Act (1928), are instances of this type of legislation. The Canadian law lays down the qualifications for the different grades, the description and the specifications of the containers to be used and the labels or designations of the grades. The Californian law, while specifying the standard containers, authorises the State Commissioner of Horticulture to establish grades and grading rules, after they have been approved by public meetings of growers and shippers, representing at least half their total number in each country. Both these Acts also provide for machinery for inspection, and proper penalties for the violation of the provisions of the Act. The English act merely authorises the Minister from time to time to frame regulations on these lines, for individual fruits or vegetables. In this case, wherever regulations have been issued, preliminary schemes have been first worked out by a joint committee of the Ministry of Agriculture and Fisheries and the National Farmers' Union. While the Canadian and the Californian laws compel all packers of fruit to supply information about grades, counts etc., on the container, the English act is entirely voluntary in its application. In England, however, only authorised persons can use the labels and marks, officially issued by the Ministry of Agriculture. The English act, therefore, provides for no inspecting machinery, and has no criminal sanctions. Only the

unauthorised use of the marks is an offence. "But, when a statutory designation is applied to any product, there is imported into the contract of sale, a warranty or condition that the product is of the quality meant by the designation according to the definition contained in the regulations. If the quality of the product does not accord with the statutory definition, the purchaser has, therefore, a civil remedy."¹ In England, an elaborate machinery has been set up for scrutinising the applications for using the marks and labels; and in the earlier years, the authorisation was restricted only to growers whose production of the particular fruit or vegetable was above a certain minimum. In all this, the Ministry acts in close co-operation with the National Farmers' Union.

With us also, provincial standardisation laws will have to be enacted, after a certain amount of public opinion has been created in favour of these and after a certain proportion of growers have begun to grade and brand their produce. The Department of Agriculture acting in co-operation with associations of growers, will have to develop the details of the grades and the provisions of the act.

(v) *Packing* :—The types of packages used by the Poona fruit growers are numerous. We describe below the most important features of the containers and the methods of packing, used in the Poona fruit trade.

Bananas from Junnar are packed closely in a wrapping of a tough and thick gunny cloth. Inside the wrapping, the bunches of bananas are placed, alternate with green banana leaves; and the whole covered on all sides, by dried banana leaves. Each one of these gunny cloth parcels contains about 1,500 to 2,000 bananas. The length of this cloth, necessary for one parcel covering, costs Rs. 6 and can be used over a period of three years. These parcels are loaded in a bullock cart (which can contain two of them) and carried to Poona. Banana bunches from Walha, however, are carried loose in bullock carts in large open baskets.

Figs are sent to the Poona market in a special type of large conical basket,² narrow at the top and very broad at the base. Th

1 Ministry of Agriculture's Report on the Preparation of Fruit. Ec Series, No. 21, p. 12.

2 All baskets are provided with lids of the same material as the basket which are sewed with string on to the basket, after packing the fruit in.

baskets are made of thick and strong bamboo strips and last for at least two years. Each basket costs about 8 As. and holds nearly 24 sers of figs. Figs, sent to Bombay, Madras and other distant markets, are packed in much smaller baskets, cylindrical in shape. Such baskets cost about Rs. 5 to Rs. 7 per 100, depending upon the quality of the bamboo strip used. Baskets sent to Bombay hold about 5 sers of figs, and those sent to Madras 6 sers. In packing all baskets or boxes, some packing material is used for placing between the different layers of fruit and for being placed between the fruit and the container on all sides. In figs, the packing material usually used is fig leaves; and in case of a scarcity of fig leaves, 'pimparni' leaves are used. The contents of the Poona basket being large, it is usually found, that in it, the lowest layers of fruit are somewhat damaged owing to the weight above.

Guavas sent to Bombay are usually packed in large, tall bamboc baskets, each holding about 550 fruits, which might weigh about 30 to 35 sers. The baskets are sold at about Rs. 15 per hundred. The packing material used is 'patraval' or mere leaves of some wild trees. Guavas are sent to the market at Poona, in large open baskets containing about 375 fruits. They are placed loose in these baskets, without any packing material between the different layers of fruit. The baskets are very largely carried as headloads.

Oranges and pomegranates may be packed in bags, baskets or boxes. Bags are used only for very low quality fruit, and only for mosambis and pomegranates. Santras are never packed in bags. The baskets used are usually a foot in height, 9" in diameter, and are cylindrical in shape. They contain from about 3 to 3½ doz. fruits of a fairly large size and cost Rs. 8 to 10 per hundred. Boxes made of deal or pine wood are used only for superior grade fruit and can contain 6 doz. fruit of a large size, or 8 doz. of medium size. None of these boxes are specially prepared for the trade, but are bought second hand, in Poona. They are boxes, used in the trade of things such as kerosene, tea, soap, vegetable ghee etc. They can be had at Poona for about Rs. 20 to Rs. 25 per hundred. A box can stand about 3 trips to Bombay, and 6 to Poona; and at the end of each trip, it has to be slightly repaired. The packing material, mostly used in the case of these boxes is old newspapers, 'patravals'.

1 These are made up by stitching together a number of large sized leaves of some trees like 'Palas' or banyan, so as to form a large circular sheet,

green leaves or hay. The first two are used in packages sent to Bombay and usually in packages containing superior fruit.

Green mangoes come to Poona loose, in open bullock-carts. A bullock-cart holds from 1,500 to 2,000 mangoes of average size. Musk-melons and water-melons are brought here in bullock-carts. Custard-apples and papayas are brought in, usually in open baskets, as headloads.

The question of returnable and non-returnable packages stands in India on a very different footing from that in England. In England, it assumes a special aspect, because the returnable empties are, in England, usually supplied to the growers by the distributors. This is not so in Poona district; and all empties, whether returnable or non-returnable, are provided for himself, by the grower. In the Poona market, all the empties are treated as returnable, whether they are bags, baskets or boxes. When the transport is by bullock-carts these empties are returned free of charge; and the same holds good in the majority of cases, in which produce comes to the market by headloads. The question, therefore, of the substitution of the returnable by the non-returnable type, does not arise here. In the case of very distant markets, such as those of North India or South India, boxes are almost never used. Fruit is sent packed in baskets; and these are non-returnable. It is only in the case of fruit consigned to Bombay, that both the returnable and non-returnable types co-exist. The use of boxes is, however, confined to only superior grades of oranges and pomegranates. These boxes can also be used only because they are available second hand; if their use were to spread and the trade had to get these boxes specially prepared, their cost would be found to be prohibitive. The box has been introduced in the Bombay trade, chiefly because the fruit in baskets cannot stand the handling it receives on the railways and because there is no danger of pilferage when the box is used.¹

1. These are the reasons also given in a circular, issued by the Agricultural Department, advocating the use of boxes for sending mangoes from Konkan to Bombay. (No. 2 of 1930.)

The box used is an air-tight package and consequently, really unsuitable for consignment of fruit over a long distance. The use of the box, therefore, is bound to be given up, if conditions regarding the handling of fruit on railways become better and if the strength of the present baskets is improved upon.

Empties are carried by the railways, by weight, at quarter parcel rates. Dr. Howard¹ records that all Indian railways, carry certain standard types of empties free of charge to Quetta and Chaman; but this does not seem to be the case, at least at present. If this sort of concession could, however, be given, it would help considerably in bringing about an early adoption of standard containers.

The variety of types of packages used is large ; and though in the case of the principal types, the approximate weight or count of the contents is fixed, there is no necessary uniformity in this regard. The size of the containers seems to be dictated chiefly by conditions of transport. The guava or the fig baskets brought to Poona suggest the adoption of the maximum possible as a headload. The limits of the containers sent to Bombay are determined by the size of the demand, the amount of fruit that could safely be packed in baskets, and the limits for weights laid down by the parcel rates. The guava basket is obviously too big and too tall to carry such delicate fruit; the fruit, however, though delicate, is low-priced and cannot perhaps bear the cost of more careful packing in smaller units.

The movement towards reform will and should necessarily mean the standardisation of packing also. But before this can be done a considerable amount of research will have to be undertaken. It appears that costs of packing are comparatively high in India. These costs are given in some detail in the following table.

1. Howard:—Crop Production in India, p. 173.

TABLE XIX.
Packing Costs.¹
Per Basket

Poona										Bombay									
	Cost of- Container, per trip.	Paper.	Hay	Patravai	String or nails.	Labour.	Carriage ² on empties.	Total.	Cost of container, per trip.	Paper.	Hay.	Patravai.	String or nails.	Labour.	Carriage ² on empties.	Total.			
Guavas. Figs.	as. p.	a. d.	a. p. a. d.	a. p.	as. p.	a. p. a. d.	a. p. a. d.	a. p.	as. p.	a. p. a. d.	a. p.	a. p. a. d.	as. p.	a. p.	a. p.	a. p.			
	0-2	...	...	...	0-1½	0-4½	...	...	2-5 ³ 1-0 ³	0-2½ ...	...	...	0-5 0-1½	0-6 0-4½	...	3-6½ 1-6
Oranges & Pomegranates }	0-4½	0-20-3	...	...	0-2	0-4½	0-11-5	1-9 ²	0-20-30-3	0-2	0-4½	...	0-2	0-4½	...	2-11½	
	Per Box.																		
Oranges & Pomegranates }	0-8 ⁴	0-40-30-7½	0-5	0-80-83-1½	1-10 ⁵	0-40-30-7½	0-5	0-81-105-11½											

1. This table is based on approximate estimates supplied by growers or pre-harvest contractors.
2. The charge for the carriage of empties would vary with the distance for which the empty is carried. It has been included in this table, as it forms an important factor in the consideration of the costs of returnable and non-returnable packages. All the calculations in this column have been made as for transport from Poona or Bombay to Shikrapur.
3. This cost of container represents the whole cost of the basket (which is a non-returnable package in this case).
4. Here the cost of the container per trip is obtained by dividing the cost of the container by the number of trips for which it can be used.
5. This is made up of two items, (i) cost of container as per (4) above = As. 1-4, and (ii) cost of repair to the box per trip = 6 pica.

The only material very widely used is bamboo chip of which all types of baskets are made. But the bamboo is not easily available in all parts and the usual bamboo basket is not really strong enough to stand long journeys. It is not known whether bamboo baskets, provided with special stays or supports, in sections, would be very much costlier than the present type of basket. It seems also, that for at least returnable baskets for local trade, other material could be used. The 'Tarwad' twigs, which are plentiful in the Eastern Deccan, can provide strong baskets. Twigs of other types of creeper plants also are used in various localities. Bamboo, it seems, will still remain the most plentiful and widely distributed material, and therefore research in bamboo packages of different types is of the utmost importance. The manufacture of veneer boxes has not been attempted in India, and it is not known whether it is economically possible. Dr. Cheema selected the 'shevri' wood for packing the mango consignments to Europe; but the economic possibilities of any local material for boxes cannot be realised unless their manufacture is undertaken on a large scale.

Whatever the size of the baskets, the shape of the baskets used, whenever the consignment is to be sent to distant parts, is cylindrical. All the baskets sent to Bombay are cylindrical in shape. In the open basket, in which fruit of all kinds is brought into Poona, the shapes vary; and then there is the conical fig basket. Here again investigation into what shapes are really suitable for transportation must be undertaken. The usual tendency in these parts is for the baskets to be narrow and tall. This is possibly because of the material—thin bamboo strips—used. This shape means a large number of layers of fruit in the basket, which leads to damage to the bottom layers in the case of soft fruit.

No crates are used in the district. There seem to be two reasons for their absence. Firstly, crates would have to be specially prepared, and that would mean a high price; and secondly there is obvious danger of pilferage in the case of crates. The boxes used are usually of the size 1'-8" x 1' x 1'-4". But as these are bought second hand, no strict uniformity in their size is to be expected. Jute bags are used only for the inferior kinds of mosambis and pomegranates. These bags are the usual large grain bags. For the

packing of lemons, the bag of the size of the common cement bag is used.

Obviously, a considerable amount of research must be undertaken, before containers and packing methods can be standardised. And the standardisation will have to be such, as will apply to conditions of the small grower in our tracts. The fact must also be taken into consideration, that at present the bulk of the fruit sent out is so low-priced, that it can bear only a limited amount of packing cost. Real reform can be effected, only when the quality of fruit improves, and when, with the establishment of packing stations, large quantities of fruit can be handled in well-equipped packing sheds.

CHAPTER VIII.

Summary of Conclusions and Recommendations.

In the foregoing chapters we have described conditions regarding the marketing of fruit in Poona to the full extent of the information we were able to collect. In this, it remains to gather together the threads, to emphasise the possibilities of reform as suggested in the preceding discussion, and to add a few words on the possibilities of organised effort on the part of growers, and of state legislation. In considering all these possibilities of reform, it would not do to ignore the limits to effort, in all directions, laid upon us by the circumstances. The grower of fruit, in a considerable number of cases, is not primarily interested in fruit; he operates in a large majority of cases, on a very small scale; he is mostly illiterate and usually ill-informed about market conditions. There is only one small fruit-growers' organisation in existence; and no co-operative societies have been formed among fruit-growers, though some of them are members of the ordinary rural co-operative credit societies. Most of what follows has been written bearing these limitations in mind. Progress can only be slow, and by degrees. We have given some attention to the question of the probable successive steps in this progress.

Pre-market stage:—We cannot lay too much emphasis on the fact that the primary need is the improvement in the quality of the fruit marketed. In a recent Canadian report on the subject, we read that the main problems of growers in that country are of marketing and distribution; the cultural problems are well on the way to solution; for, the growers "know what to do in order to grow good fruits and vegetables."¹ It would be almost correct with us to reverse the emphasis. The study of cultural problems has hardly begun, and scientific investigation would have to go far, before it was generally determined how to grow good fruit and what varieties of it to grow; this, apart from the tremendous problem of imparting the knowledge, when gained, to the growers. The present distri-

¹ W.B. Somerset:—Report of the Ontario Fruit and Vegetables Marketing Commission (1931).

bution of fruit in the district has been arrived at, not by any deliberate study of the situation or on account of any propaganda. It is the result of the haphazard enterprise of individual growers, imitated, when successful, by their neighbours. The facts of the distribution in the district have been stated by us; it is, however, necessary to study them from a different angle and to correlate them to climatic and other conditions, obtaining in the various tracts. It may then be possible to direct intelligently the growth of acreage in individual fruits. Orange cultivation has of late years spread in many parts of the Presidency; while the fig acreage, even though growing in the Purandhar taluka, is yet confined to very narrow limits. It would certainly be valuable, if scientific study is able to afford an explanation of such phenomena. That the field for research into a large variety of purely agricultural problems regarding methods of cultivation and care of fruit trees is vast, is obvious. We would, however, from the marketing point of view, specially emphasise the importance of the classification of varieties, the determination of those, most suited for commercial planting and the elimination so far as possible, of others. The guava and the pomegranate of this district are remarkably inferior in quality. When conditions favour the planting of the orchards of these fruits to such an extent, that their acreage in the District exceeds 800 in each case, there is no reason to believe that physical conditions militate against the improvement in the present varieties or the introduction of superior ones. There is a large market for both these fruits in Poona and Bombay. In Bombay at least, there is a distinct market for quality guavas, as witnessed by the imports from places as far away as Allahabad. The Pomegranate is a fruit well-established in all Eastern markets and, if of good quality, can travel far, before being marketed. The economic waste involved in the continued planting of inferior or unsuitable fruit, is enormous.

There are, especially in the favourably situated parts of the Poona District, distinct possibilities of acclimatising some of the foreign subtropical fruits; and experiments could be made with such fruits as the avocado or the Japanese persimmon. Peaches could also, perhaps, be made to grow profitably in certain limited areas. There are again fruits grown in this district which are all ungrafted. This is the case with mangoes, custard-apples, jujubes, jambuls, karwands etc. The four latter are grown mostly as wayside trees.

No attempts seem to have been made at any proper cultivation or the improvement of the strains of these trees. The mango of all the ungrafted fruits is by far the most important. There have been attempts at establishing in this district groves of grafted varieties established elsewhere, especially in the Konkan. But little work has been done on the local ungrafted mangoes of the district itself. At Saswad, at Khed-Shivapur and elsewhere there are old famous groves of mangoes. Mangoes from certain selected trees in these groves are known to dealers in the Bombay and Poona markets and fetch very high prices, higher in some cases than even high-class grafted varieties. It appears that varieties established by grafting from these old trees would sooner acclimatise themselves in the district, than imported ones. If work of this character is not done, the peculiar quality-strains of these trees will perish with the individual trees. In fruits, in which superior quality-strains have become originally established, there yet remains a vast amount of work to be done in such directions as irrigation control or uses of fertilizers, which obviously affect the quality of fruit produced. And as we have already noted, the determination of the proper distance in planting the trees, or the practice of pruning the trees, or thinning the fruit, have all yet to be studied. And with all these studies, the major task of the establishment of standard varieties suited to climate, location, soil and market has to be done. We attach the greatest importance to this work of the establishment of commercial varieties and their standardisation.

In undertaking this standardisation, a study of the extent of market demand and the character of consumers' preferences will also be, as we have already indicated, necessary. Under Indian conditions, most of the work, especially that of a scientific character, necessarily devolves on government departments¹ and on the extent to which they are able to undertake it, largely depends the future development and prosperity of the fruit industry. For, we may again repeat, no amount of improvement in the marketing machinery can cure the inherent defect of an industry which produces a very inferior and low-priced article.

Improvements in the methods of picking and the ascertaining of the time when fruit for different markets is best picked, would also be

1 Agri. Commission's Report p. 597.

included in the scientific part of the Agricultural Department's work. But with grading and packing, we approach the domain of marketing proper. Here, private effort guided by the Department, ought to be able to do much, and growers must largely help themselves. In the first instance, the growers must be taught to see, that such methods as topping and mixing up various grades of fruit in each package are doing them an immense amount of harm and that there is no possibility of better returns unless they give up these practices. We have alluded to the experiments and propaganda conducted recently by the Agricultural Department in the mango producing tracts of the Konkan. Such propaganda must be carried on intensively not only by the Department, but by the associations of fruit-growers themselves. In this respect, a considerable responsibility attaches to the more substantial among the growers in the district. A number of them have old-established connections, with commission salesmen and have gained a reputation for their produce. It is for them, in the first instance, to introduce better methods of grading and packing produce and even establish special brands of their own. When they show by their example the success that attends these methods, imitation by smaller neighbours will naturally follow. Persuading the big growers to set an example is, perhaps, the easiest method of beginning the solution of this problem. By itself, however, it cannot lead far; and organised action of some kind or other is essential.

The fruit-growers in the district are in no way organised and do not co-operate with one another in any matter. There is in the Presidency, a Bombay Presidency Fruit Growers Association. This was formed only in March 1931. Its membership is very small, very scattered and its activities are confined entirely to making representations on behalf of the fruit growers, to Government and the Railway authorities. Small local associations of fruit and vegetable growers will have to be formed, in the first instance; for, without such an organisation which creates a sense of community of interests among local growers, no organisation on a wide scale is likely to succeed. Further, an organisation, brought into being merely to ventilate grievances, will not attract membership from among the smaller growers, and can also not help materially to solve the immense problems facing the industry.

The need for organisations for a definite purpose and a purpose which can appeal to the large body of growers, is apparent. The

~~most elementary of such organisations can be a bulking and a dispatching society.~~ The aims of such an organisation would be to secure economies for its members by bulking produce for transportation. Such organisations can only be formed in centres of concentrated production; and it is to be expected, that the first attempts at organisation can only be made in such centres. If the question is examined practically, it would be seen that the limits for the formation of bulking and dispatching societies are, even in this district, very narrow. ~~A bulking society can operate only in a small area; and for it to produce economies, it would be necessary to handle bulk consignments on a fairly large scale.~~ The Indian railways allow special concessions only to wagon-load consignments, which means that the consignments must be daily in the neighbourhood of 200 maunds. A reference to table IX (p. 33) will show that a monthly consignment of 6,000 maunds of any single fruit, from even a concentrated production locality in the district, is impossible to contemplate. It would be more feasible, if transport by motor-lorry was arranged. This would prove economical at about a monthly consignment of 1,000 maunds. Bulking for dispatch merely to Poona cannot cut down the costs to any considerable extent. Bombay is the only market, for consigning goods to which, bulking societies could be formed. If guavas from both the Mutha canal areas could be assembled at Poona, for consignment to Bombay, a bulking society could operate for about 5 months in the year. A similar position holds with regard to santras in the Talegaon-Dhamdhere and Shikrapur area. A society could also operate for a short period of about two months, for dispatching figs from a place like Pimple to Poona. In all these cases it does not seem likely that the society could operate its own trucks, but it would effect economies by being able to get special terms from private carriers. We have assumed in this that only fruit growers will join into associations of this type. If, however, it is to be eminently a small growers' association, as it inevitably will be, there is no reason why not only fruit but vegetable growers also should not be invited to join in. ~~All perishable garden produce could be taken in, and in this case the possibilities of forming and operating bulking societies would be distinctly larger.~~ Fruit and vegetable bulking societies would be formed for much smaller areas than those indicated above and their consignments would be larger and better distributed throughout the year. They would, in this case, be able also to take

advantage of the railway wagon-load rates. Such societies could be formed for both the right and left bank canals of the Mutha and they could be formed along the railway route from Poona to Patas and along the railway and the road route from Poona to Walha. They would act, at least in the beginning, chiefly on the lines of the U. S. A. shipping associations ; and their chief advantage would be to secure for members " a lower freight rate than would apply to small shipments made by individuals acting separately. "

A bulking society would do the work, which mainly the forwarding agent does at present. It may receive all produce at the rail-head or some other convenient centre for road transport, or it may even make arrangements, for collecting the produce of members and for bringing it to the assembling centre. In a bulking society, each grower may, of course, pack his produce in any way he likes and send it to any salesman in, say, Bombay or Poona ; but it may happen, that a bulking society may come to have, after a certain time, some voice in the marketing of the produce consigned by its members. The society may determine on a few salesmen to whom all the produce would be consigned, and may also undertake to supply marketing intelligence to its members. Such a society would be of the type represented by the English society of Littleton and Badsey Growers Ltd. and its advantages could be indicated in the following manner. " The principal benefit of the society is undoubtedly that it creates an alternative to the usual trade channels, keeping the growers in touch with prices in distant markets, and to some extent preventing speculative buying at unduly low rates. Members are also guaranteed against bad debts, and rail claims are handled for them, free of charge. The cost of the Society's service is frequently saved by the economy in transport charges which it is able to effect through bulking.....The salesmen to whom the society sends produce for disposal are saved a considerable amount of account, correspondence, postage and other incidental expenses and modify their charges accordingly. " 2

A society of this type, though it will mean an immense advance on present conditions, will not influence grading and packing,

1. University of Illinois:—Agri. Experiment Station—circular No. 238, (1919) p. 8.

2. Report on Co-operative Marketing of Agricultural Produce in England and Wales, (1926), p. 97. (Ministry of Agri., Eco. Series, No. 1)

except indirectly, through the educative work that it conducts. For the purpose of influencing grading and packing, it is not only necessary that the produce should be assembled, but also that it be centrally graded and packed. The establishment of such central packing stations, however, presents a great many difficulties. Firstly, central packing necessarily involves confining the membership to producers of one type of fruits or vegetables. This means that the field for bulking is greatly restricted and transport economies tend to vanish. And central packing, to bear all its additional costs, must be conducted on a certain minimum scale. Further, only such produce as can be re-handled, can be centrally packed; but in so far as even the softest fruits of the district, such as guavas and figs, are repacked and reconsigned at least once in a number of cases, this latter difficulty does not carry a great deal of weight.

Here, it would not be out of place to consider the influence on this question, of the presence of the pre-harvest contractors. There are at least two sets of these contractors in the districts whose individual scale of business is very large—the banana contractors of Junnar, and the orange contractors of Purandhar. The banana in Poona is, however, a product that has almost entirely a local market; and it being further of an inferior quality and consumed largely by the poorer classes, careful grading cannot be expected to influence its marketing very considerably. These contractors may combine to effect economies in transportation costs; but they cannot be expected to take any interest at this stage, in the general improvement in the grading of produce. The pre-harvest contractors of Purandhar taluka ought to be, on the other hand, interested in improvements in grading and packing. They handle produce on a large scale, and in some cases, have contracted for the produce of orchards for a long term of years. These contractors have, however, yet shown no interest in these developments; and it is likely that they will never show an interest keen enough to pioneer efforts of these types. It must be remembered, that the contractor's interest is primarily in the difference between the wholesale price which he obtains, and the khoti price, which he pays to the owner of the orchard. He is not permanently and fundamentally interested in the fruit industry. Even so, the contractors, if they introduced improved methods of grading and packing, and packed centrally all the produce that they controlled, could make increased profits

immediately ; and it would be helpful, if it were possible, to interest them in these questions. Indeed, in many American states, it is the intermediary, next to the grower, that grades and packs, and is the reforming agent in these matters. The California shippers undertake this service¹ ; and in the Calhoun county, where the general standard of growers' grading is poor, the pre-harvest contractors, when they buy produce, get the produce graded properly and labelled by the growers or their agents. Of course, in this case, the pre-harvest contractors, it should be noted, are the agents of Chicago commission houses.²

Another possibility is the coming into existence of an agency which would grade and pack produce for a small commission on behalf of the growers. Of the already existing agencies, it seems most feasible for the forwarding agent to extend his activities in this direction. As it is, he already assembles produce at railheads. He may, for certain types of high quality fruit, further undertake the additional service of grading and packing on behalf of the growers. The grades would be guaranteed by him and the labels would be his. Such a step would be helpful in introducing uniform grading conceptions over the various producing areas; and there are not the same difficulties, in its way, as in the co-operative effort of growers. Nobody is, however, likely to come forward and afford the services, until there is a distinct demand for them. The question thus resolves itself into one of impressing on those, who undertake selling risks i. e. either the growers or the contractors, the need for, and the advantages likely to result from, careful grading and packing.

The small group of country buyers who operate in the district also stand in the same position, with regard to grading and packing, as the pre-harvest contractors; because they stand to profit immediately, if they improve grading and packing, and establish personal brands. But at present, they do none of these things. If, as the result of the establishment of local markets in producing areas, this class increases in importance and in the scale of its operations, a good deal of assistance in this reform may be expected from it.

Under the circumstances, the most feasible method by which to introduce the practice of grading, and to standardise grades and packs

1 Stokdyk and others :—Marketing California Apples, (1930), University of California. Bulletin 501, p. 97.

2 Marketing Calhoun County Apples. By Lloyd and Newell, Univ. of Illinois, Bulletin No. 312 (1928), pp. 595-6.

seems to us to be this. In the first instance, intensive propaganda through the Department and such associations as may exist, will have to be carried out. After these preliminaries, the most important step should be for the Department, in co-operation with fruit growers and merchants, to fix and announce standardised grades and packages for various fruits, in the way in which the U. S. A. Federal Department of Agriculture has done. It would be, of course, entirely voluntary for growers to adopt this or not. But the determination of these standards must be supplemented by other efforts. These efforts should be to devise cheap and simple grading apparatus suited to Indian conditions, and to provide the services of a few graders and shipping-point inspectors. Trained graders will be necessary to teach the growers, in the first instance, the technique of grading and the handling of grading equipment. In the beginning, when only a few growers have taken up the grading of their produce, the grading could be done under the direct supervision of the graders; but with the extension of this practice, the grading would come to be performed normally by the grower himself, in his orchard. When this comes about, the provision by the Department, of shipping-point inspectors, would be necessary. These inspectors would inspect packages before they were dispatched by rail and road and issue a certificate, if they conformed to departmental standards. The buyer and the commission salesman may be expected, if the departmental service proves efficient, to place implicit faith in these certificates; and then both the market and the growers will be familiarised with the standards. It is only after the standards have become established, that legislation on the lines, say, of the English Horticultural Produce Act, could be undertaken. The services of the graders or the inspectors would, of course, be charged for, by the Department. In this connection the following quotation from the statement made by the Standardisation Specialist of the United States Bureau of Agricultural Economics would, prove to be of interest.¹

"One point is clear, that without a strong favourable public sentiment, grading laws accomplish little.....and violations are the rule rather than the exception. There is no doubt that with well enforced compulsory laws something has been accomplished for the reputation of the products of certain States but usually economic necessity has forced the producers into

1 Quoted in Ministry of Agriculture's Report on Fruit Marketing in England and Wales, Economic Series, No. 15, p. 39.

line before the passage of the Act and its provisions are aimed chiefly at a small but irritating minority. There are several objections to the compulsory use of inspection which involves the issuance of detailed certificates. In the first place, there are almost invariably regions of scattered production where the work must be done at a prohibitive cost. Attempts to handle these scattered shipments have resulted in all sorts of makeshifts and in a failure to provide supervision. An even greater objection is that compulsory inspection leaves no choice to the shipper—good, bad or indifferent. He must use it until there is enough political pressure to secure a relief. On the contrary, permissive inspection run purely as a service on a self-supporting basis has to compete with other agencies and rise or fall on the basis of merit. The U. S. Department strongly endorses the principle of permissive certification in connection with the inspection of fruits and vegetables. It puts the work on a strictly business basis and in the long run is the soundest policy. From a national standpoint, compulsory grades for fruits and vegetables seem wholly impracticable at present. There are the widest variations in practices in different parts of the country and in commercial and non-commercial districts. An army of inspectors would be required to enforce such a law at a probable cost out of all proportion to the results. Although national standards for fruits and vegetables have been extended solely by educational means and in connection with commercial operations, progress has been extremely rapid.”

Other ways in which the movement towards standardisation could be helped, would be to obtain from commission salesmen special rates for the handling of standardised packs or get from railways such a concession as the free return of empties in the case of standardised containers. Mr. Howard mentions the latter concession as being granted by the Indian railways for shipments of fruit from Quetta.

The extent to which the pre-harvest contractors operate in this district is one of the most significant features in the marketing machinery of fruit. The tract is not very distant from its most important markets, neither are the orchards, as a rule, situated in inaccessible localities or localities placed inconveniently with regard to transport facilities. And yet the dominance of the pre-harvest contractor is everywhere evident. As explained above, this is entirely due to the limited scale of farming, to the small acreage that each farmer has under fruit, and to entire ignorance regarding market conditions. The pre-harvest contractor cannot be said to perform any important service which the growers individually or collectively could not easily perform for themselves. All that he does is to

watch and pick the crop, and then pack and consign it. He is not in a very different position from individual growers *vis-à-vis* the commission salesman in the city, except that he is perhaps more bound to a certain salesman than the grower would be. His scale of operations is not so large as to allow him to effect any considerable transport economies; neither does he, in spite of the large scale, grade or pack his produce any better, or try and secure the local produce any established standing in the market. We have also noted that the risk of a bad debt is ever present in the case of bargains with the pre-harvest contractor; and thus sale of standing crops is not even a complete guarantee against extreme fluctuations of yield or prices. The contractor is thus to a very large extent an unnecessary link in the chain. To the very small grower he may offer a certain convenience; but developments in fig marketing show that he is not indispensable even to the very small grower. It is, of course, too much to expect that he will disappear early; but his position will be considerably undermined, if certain reforms take place. These are, such regulation of the city markets and the commission salesmen, as will inspire among growers greater confidence regarding marketing machinery in the cities; the creation of agencies for the spread of marketing intelligence; and the formation of bulking and dispatching societies among small holders in a given area. There are of course, to-day, cases of even large growers, notably among citrus producers in the Purandhar taluka, who sell their standing crops. It should not, with the setting up of regulated markets and with well-directed propaganda, be difficult to oust the contractors from the position they hold, so far as these larger growers are concerned. The main difficulty to be faced in such an attempt will be the opposition of those commission salesmen who habitually finance the pre-harvest contractors. We have already noted above that in the agreements with the contractors, it is desirable that the grower should undertake all the agricultural operations, leaving to the contractor only the watching and picking of crops; and that it is necessary to draw up a standard form of agreement between the grower and the contractor to be signed by both at the time of entering into a contract.

With regard to transportation of produce, the most important measures of reform necessary are the lowering of the railway rate on parcels and the diminution of the margin between the railway risk and the owner's risk rates. In view of the great difficulty and

the expense involved for a small grower to contest a rail claim, it is imperative that the railway risk rates may be brought at only a reasonable percentage above the owner's risk rates. The Linlithgow Committee laid down, even with 1925 prices, that "unless the fruit and vegetable industry in many districts is to perish, the rates for fruit and vegetables cannot be maintained even at 50 p. c. above those obtaining in 1914¹"; and also with special reference to rates on small consignments, "over-centralisation and the multiplication of intermediaries may be partially attributed to high railway charges on small consignments sent by passenger train.²" We could draw attention also to the following recommendation made by that committee.³

"Pending readjustment of the existing rates on small consignments, the companies should assist the small grower by applying the existing special rates for bulk consignments to composite consignments made up of small individual units despatched by several growers to several consignees. Collection and delivery should be arranged for independently by the growers, or paid for as an additional charge, while a small extra flat-rate charge per package should suffice to cover the increased labour involved in multiple bookings."

The possibilities of bulking societies discussed above show the one direction, in which transport problems may be most effectively tackled by organised action on the part of growers. It is the bulking societies also, that may render unnecessary the services of the forwarding agent.

(ii) *Market Stage*:—While bulking societies afford one type of solution to the problem of the small grower of varied produce, the establishment of wholesale country markets in the producing areas themselves, affords another method of meeting the difficulties. The case for the establishment of such markets, may be based on the assumption that better prices would be secured if produce were disposed of by auction in the producing area itself, than those obtained from pre-harvest contractors or through the agency of commission salesmen in distant markets. It would seem as if conditions in some parts, at least, of the Haveli and Purandhar talukas of the district are extremely favourable to the establishment of such auctions. In the West Midlands area in England, where markets of this type

1. Op. cit. p. 112.

2. Ibid p. 138.

3. Ibid. p. 113.

have been most prominent, their origin has been explained as due to the necessity of some form of assembly market, to bring together the miscellaneous contributions of a large number of growers, whose individual output is frequently too small to pass economically through the ordinary commercial channels. The establishment of the markets has also been made possible in this area by the variety of crops raised, which ensures for the market a continuous supply throughout the year.¹ Conditions of the Poona district tract, referred to above, are closely similar to the West Midland conditions and would, therefore, seem to be favourable to the establishment of local wholesale markets. In fact it has already been noted, that such markets, though rudimentary in character, have already sprung up in the district in the case of figs. If at places like Pimple and Waghapur, a number of traders are attracted from the outside during the short fig season, there is no reason why, with more varied and continuous markets, the practice for agents of wholesalers in Poona or Bombay to resort to such markets should not become regularly established.

These markets could be established by local authorities, private persons or by bodies like the co-operative societies. And if a beginning has to be made, it appears best that they should be formed and brought into being, by co-operative societies². Control by a co-operative society need not necessarily mean that the market is closed to non-members. The advantages of a local wholesale sale are obvious. They obviate all the risks attendant on consignment to distant markets for sale on commission. ¹ If such markets are fairly numerous in a tract and the attendance of outside buyers satisfactory, prices obtained in them will have a close correspondence with wholesale prices in the important city markets; and under such conditions they will involve to the grower the lowest possible marketing costs. ² Auctions at such markets would be conducted openly by the society on behalf of its members, and the society would charge the ordinary commission on all sales. ³ It has been found that such societies can have considerable influence indirectly, on the grading and packing of produce of its members. It may indeed be possible for the society to devise special

1. Ministry of Agriculture's Report on Markets and Fairs in England and Wales, Part I, p. 30.

2. Cf. Description of the Pershore co-operative fruit and vegetable market. Report on Co-operative marketing of Agricultural Produce in England and Wales. (1926), pp. 87-93.

schemes by which to encourage better practices on the part of its members¹. The two main conditions on which the success of such a market depends are, the extent to which outsiders resort to the market and the extent to which members and non-members send to it, their produce for sale. The successful establishment of such markets will, to a considerable extent, render the services of the pre-harvest contractor unnecessary to the small grower.

The commission salesman is the pivot, on which the whole system of marketing turns and his is a position of extraordinary strength. It is no wonder if the position is a number of times abused. The evils that exist to day in the marketing of fruit in Poona, have always existed, wherever growers have been forced to consign fruit for sale on commission to distant markets, about whose conditions they were utterly ignorant. Witness the following extract.²

"Consigning fruit is a necessary evil as the fruit trade is organised at the present time. One of the objects of organization among fruit growers, is to do away with this method of selling except to a very limited degree. It is perfectly true that there are many reputable commission merchants whose record for fair dealing is unimpeachable. On the other hand, there is scarcely a fruit grower in business to-day, who has not suffered severely in consequence of too great a trust in the commission business. It is absolutely impossible for the average fruit grower to tell whether he has been dealt with fairly or not. He cannot audit the accounts nor follow his fruit to the next purchaser and he is practically obliged to take the word of the commission man for all facts connected with the sale of his fruit. He says in fact to the commission man, here is my fruit, give me what you please for it. It would be strange indeed if some commission men did not yield to the temptation and send returns far below what was received for the fruit. It is not a question of the responsibility of the commission merchant. His standing may be high in financial circles, but if he wishes to be dishonest he need not wait for a plausible excuse to return almost any sum to the grower. Not unfrequently the commission merchant even reports that the sales did not equal the charges and asks the fruit grower to remit a further amount."

The description may be granted to be as accurate regarding Indian conditions to-day, as regarding the conditions about which it

1. Cf. the description of the Cheltenham and Evesham markets in the Ministry's Report on Markets and Fairs. Part II, pp. 81-84.

2. Department of Agriculture, Canada. Co-operation in the Marketing of Apples (1907). Bulletin No. 18.

was written. But the problem that faces us is not how to do away with the salesman, but how to limit his strength. For, even the most powerful among the producers' marketing organisations, such as the California Fruit Growers Exchange, have not been able to eliminate the commission salesman or broker. The producers, however well organised they may be, will always stand in need of some intermediary for the wholesale disposal of their produce in the various important city markets. That business is so technical and exacting and entails risks of such a character that it cannot conveniently be undertaken by any organisation of producers. It is necessary, chiefly, to provide that the producers are not entirely at the mercy of their intermediaries and can have reasonable control over them.

Regulation of the commission salesman is immediately desirable in three important respects. Efforts must be made to do away with the secret auction and limit the activities of the commission salesman to his proper function alone. It is also necessary to regulate the return of sales accounts by commission salesmen to consignors. The first two would, in most countries, be effected by municipal regulation. As commission salesmen conduct their entire business in the municipal markets the municipality can lay down conditions under which they operate. In some countries the commission salesman is prohibited by local municipal regulations from carrying on any business, such as wholesaling or retailing, other than his proper business of selling produce received from his principals on a fixed commission charge. It is also the practice in some foreign countries, for the municipalities, to control the auctions or to hold the auctions themselves. There is, therefore, nothing either novel or impracticable in the idea of open auctions being enforced, and commission salesmen being prevented from participating in the wholesaling or retailing business, by municipal regulation. The Bombay Major Municipalities Act (1925) gives powers to the municipalities to make bye-laws for the regulation and inspection of markets, slaughter-houses etc. and for the proper and cleanly conduct of business therein, and more specifically for "regulating the sale of fruit and vegetables in the municipal market or other specified places." These powers are wide enough for imposing any restrictions on the activities of commission salesmen. It would, of course, be first necessary to induce the municipalities to set up a market committee under Sec. 36 of the 1925 Act, entrusted with the regulation of markets. It

would also be very desirable that, as permitted by Sec. 38 of the Act, one-third of the members of such a committee should be non-councillors, and should in this case be specially elected to serve the interests of growers. If this is not done, at least an advisory committee of the type suggested by us in Chap. IV¹ should be set up to put forward the point of view of growers. The market committee could, in laying down the regulations governing the conduct of business in the market, prohibit the system of secret auctions and confine commission salesmen to commission business alone. It could even introduce a system of licensing commission salesmen, and it ought to control the licensing of porters, weighmen etc. in the market. The market committee could exercise powers similar to those vested in the market committees set up by the Cotton Markets Act (1927). More particularly, it would regulate the kind and description of the scales, weights and measures to be used in the market and conduct a periodical inspection of such weights and measures, and determine the trade allowances which may be made or received by any person, in any transaction, in the market. Under this last head would fall the prohibition of such charges as Dhar-madaya, or Kasar and the proper fixation of charges like portage.

We are aware, that the Agricultural Commission has argued the case against leaving the regulation of wholesale markets with the municipalities and has cited the failure of the Central Provinces municipalities to do any thing in this behalf. We feel, however, that the arguments put forward by the commission apply with much greater force to cotton or grain markets, and that there are many difficulties in taking away the control of fruit and vegetable markets from the municipal authorities. We admit that the present regulation of the Poona market itself is not very satisfactory. This has, however, largely been so, because the regulation of markets has never been considered important hitherto and public opinion has not been properly instructed or aroused on the question. With pressure from Government, most of the important municipalities could, however, be induced to take the question up. The matter can be dealt with under present legislation by the municipalities and they are in the best position to undertake this regulation. If, however, they prove remiss in their duties, provin-

1. Ante p. 98.

cial legislation for setting up regulated fruit and vegetable markets may have to be contemplated.

The case of Bombay City stands apart from that of other municipalities. It is likely that the Bombay City Municipal Act may be thought not to cover fully, all the powers necessary to be exercised for regulating dealings of commission salesmen and others. In such a case provincial legislation somewhat on the model of the Cotton Markets Act, may be thought to be desirable. The separation of the wholesale and retail dealings as recommended by the Agricultural Commission will then have to be effected. We would, however, favour the alternative method of modifying the Bombay City Municipal Act, in such manner as to enable the City Municipality to set up a Market Committee and to regulate the dealings of commission salesmen and others in the municipal and the private markets.

Provincial legislation is the only way of dealing with the submission of sales accounts by commission salesmen to consignors.¹ The English Horticultural Produce (Sales on Commission) Act of 1926 may well be made the model of such legislation. This Act lays the duty on each salesman of recording and delivering the particulars of each sale made on commission by him. The price and the quantity of produce sold, the commission or other charges made, the details of any charges made for services in connection with the sale, have all to be noted separately in the account. It is further obligatory for the salesman to state the fact, if the produce has been bought by the salesman or by any body else on his behalf. The act, however, plainly states that "nothing in this provision shall be construed as rendering any such transaction, if otherwise illegal, legal". The Act provides appropriate penalties for the violation of its provisions and also gives the right to the owner or consignor to get the books of the salesman regarding the sale of his produce, examined by a qualified accountant. The Act does not and cannot be expected to lay down what are proper and improper charges; but by making detailed accounting obligatory and by making the books of the salesmen open to examination, it renders possible effective action on the part of growers. Such an act will abolish the system of a lump commission and will make it

necessary that the service charges be properly accounted for. We have already noticed that such charges as Dharmadaya, Kasar or rent are not levied by all salesmen. These charges are really nothing more than additions to the commission charge. It should not be difficult, with concerted action by the fruit growers, to get these abolished even before municipal regulation steps in.

Such are the ways, in which chiefly the dealings of the commission salesmen could and should be regulated. Regulation by itself will not reduce the strength of the commission salesman materially; it will merely restrict the possibility of his abusing that strength in certain directions. For, the strength of the commission salesman lies in the weakness of the grower and unless the growers are organised effectively to look after their own interests, regulation could still be evaded with impunity.

The possibility of more directly influencing the system does not seem at present to be very promising. In most of the markets of Continental Europe, the auction sales are conducted by municipal officials who are forbidden to be interested financially, either directly or indirectly, in the trade of market commodities of any kind.¹ In the South African markets there is usually a 'market master' who does in most cases, the auctioneering himself.² But conditions in India are at present extremely unfavourable to the holding of central auctions of this type. As long as there is no standardisation of grading and packing, each consignment has to be separately examined and separately dealt with; and as long as produce is not bulked or pooled, it will continue to arrive in the market in very small lots. This necessitates an enormous number of separate auctions and puts out of account the possibility of central auctions. The wholesale auctions, especially of vegetable and certain kinds of fruit, in a market like Bombay or Poona must be over, fairly early, in the morning for retailers to obtain their supplies in time. This cannot be done expeditiously by a centralised auction, if sales cannot take place with the help merely of samples or catalogues. For the present, therefore, we must be content with the system of auctions by commission salesmen trying to modify, as far as possible, the evils of that system.

1. J. Smith. *Organised Produce Markets* (1922), p. 179.

2. *Markets and Fairs*, Part I. p. 78.

This same difficulty of the absence of standardisation, would make it impossible to replace the commission salesman by the cheaper agency of the broker. All the highly organised American co-operatives make use of this agency for disposing of their produce in the city markets. The broker has usually no responsibility other than selling and he does not in most cases physically handle the produce. He deals in large standardised lots and directly with the wholesalers. The broker comes into existence only when the producers are highly organised ; and his field is limited to products "which can be highly standardised, and this standard represented by a definite grade."

A suggestion has recently been made that, the best way of dealing with the problem of the commission salesman's multifarious activities is to separate the wholesale market from the retail market. It is expected that, if the two sets of dealings do not take place in the same market, a separate class of dealers will take charge of each. We cannot, in the first instance, agree to this assumption. Even to-day, it is not as if the same individual attends to all the sides of a combined business. It is rather a number of members of a family or partnership that divide among themselves the various sides of the business. The mere fact of the two markets being separate from each other, would not break up the present family combinations or partnerships. This step would thus not be very effective in fulfilling its aim. It is also, in other respects, undesirable. We have pointed out above, that in most countries a combination of the wholesale and retail dealings in the more prominent markets whether in the producing or consuming centres is very common. A congregation of a variety of buyers at one place is distinctly to the advantage of growers; and so long as wholesale dealings take place on a small scale and in ungraded commodities, the potential class of bidders at auctions is quite large. There is no doubt that in a city like Bombay, the establishment of proper retail markets in various parts is essential; but this should not, as a consequence, mean the abolition of all retail dealings near or at the wholesale market. Even in other countries the big cities, though possessing ample retailing facilities in all parts of the city, have usually one dominant retail market; and this is either near or coincident with the whole-

1. Boyle :—Marketing of Agricultural Products, p. 172. Cf. also Ministry of Agriculture's, Economic series, No. 15, pp. 72-73.

sale market. An unnecessary splitting of the two may mean quite an appreciable increase in the damage in handling and in the costs of transportation. The problem of the commission salesman would, in our opinion, be best dealt with by a direct regulation of his activities, and not by this means of the separation of the wholesale and retail markets.

We attach considerable importance to the establishment of a growers' market in Poona. It should also be possible to do this in most cities of the size of Poona. We are not in a position to say whether such a step is feasible in Bombay.

In the bigger city markets the weights and measurements are standardised to some extent. There still remain, however, some abuses which need remedying. For example, where fruit is sold wholesale by weight in Poona, there is the practice of the commission salesman to slightly tilt the scales. This means an overweighing to the extent of 10 to 20 p.c. This is a long established practice, but one which harms considerably the consignor. The consignor must put in 22 to 24 seers of figs in his basket, if he has to sell 20 seers, wholesale, in Poona. It is only strong organised action on the part of growers that can put down such practices. When the fruit is sold by count, usage fixes the 'hundred' or the 'thousand' at various figures. In the Poona market a 'hundred' of bananas by wholesale would mean by exact count 116, of lemons 132 and of mangoes 318! Here again it is the middleman that entirely profits by these variations. This abuse is specially rampant in the sale of vegetables. When grades and containers are standardised this grievance will naturally vanish.

The usual course of fruit from producer to the consumer is to-day via the commission salesman and the retailing agency. In many countries attempts have been made to eliminate one or other of these intermediaries. We have already observed, that in the local district trade, a commission salesman does not step in, and that the fruit reaches the wholesaler, the jobber or the retailer, direct from the producer. In the city markets, the only way in which the grower could come into contact with the retailer or the consumer is by the establishment of such facilities, as a growers' market which we have already noted above. The other ways of the grower approaching the consumer, are by roadside marketing and marketing through the post. The growth of motor transport ought consider-

ably to increase the possibilities of roadside marketing. Looking to the nature of the road traffic, it is clear that the main demand will be for inferior quality fruit. Even if, however, this demand for low grade fruit could be stimulated by proper advertising and arrangements for sale at motor stands, it will help the fruit grower materially. It is necessary to draw the attention of growers to possibilities of expansion in this direction. So long as standardisation of produce has not taken place, marketing through the post will always present a great many difficulties. When some advance is made in this direction of standardisation, postal authorities will have to be approached for special facilities and rates for the carriage of small parcels of perishable products.

Finally, we may consider the larger question of organised and orderly marketing. Such organised marketing necessarily implies a close co-operation of producers and control over at least a major portion of the supplies coming into the market. The most notable examples of successful attempts in this direction, are undoubtedly the large co-operative organisations controlling the Californian fruit industry, such as the California Fruit Growers' Exchange, the Sun-Maid Raisin Growers or the California Prune and Apricot Growers' Association. All these organisations enter into a contract with their members for the supply of the whole or a defined quantity of their produce and pool all the supplies thus obtained. They distribute their supplies and have them sold through intermediaries in the various markets and they have a well-thought-out plan of carefully feeding all the markets. In Canada, associations of this type have also come into being.¹ While in the other dominions the growers' organisations with the help of legislation have succeeded in establishing control over mainly the export trade. The Californian organisations are growers' organisations which have succeeded in obtaining control over the greater share of the produce and their success is no doubt due to the peculiar conditions of that area. The pre-requisites of the success

¹ It is interesting to note that in British Columbia the system of contract is reinforced by a special enactment of the local legislature, which makes it an offence for any person to solicit fruit from a member of a co-operative organisation. This provision aims at removing from growers the temptation to break away from the association which might arise from offers of the brokers to make purchases or to make cash advances on the fruit. —[Imperial Economic Committee's Report on Fruit (1926), p. 25.]

of such a co-operative enterprise are the pooling of the supplies of the different growers and obtaining control over the larger portion of the supplies likely to reach the market. When these conditions obtain, the diversion of supplies from one market to another, with a view to prevent overstocking of any one market, the storage of produce to carry it over in time, or the disposal in other ways of a part of supplies at periods of glut, are all rendered possible. With us, the conditions necessary for the formation of such co-operative organisations do not obtain. Such attempts, as have hitherto been made at the co-operative sale of agricultural produce, have not proved remarkably successful; and in fruit, the problems of the sale societies are likely to be even more complex than those in other products. For Poona district fruit, Bombay is the most important market, and Poona comes second a long way behind. Even though other markets such as Hyderabad and Sholapur—which have evident possibilities—come to be developed, the Bombay and Poona markets will remain, for a long time, dominantly the most important for the Poona producer. Even the California Associations have never attempted effecting sales directly in the distant city markets and growers' organisations in Poona district cannot hope to attempt this with any success. The producers of this district do not also hold a special position with regard to any fruit except figs; and regulating supplies to a market with a view to influence it, will be beyond their power. Without standardisation, pooling of produce is impossible. But even if it were possible, co-operative marketing associations of the more advanced type will be difficult to form in the district.

As we have noted above, co-operative efforts would most fruitfully come into being in two directions: (i) bulking societies, which could undertake certain marketing functions, especially such as supplying marketing intelligence and directing the movement of produce, in view of such intelligence. At present, not only is there no planning in production but there is still less in distribution. Most growers could give us no special reasons for consigning produce at various times to Bombay or any other market. As a fact, no grower had or cared to collect any data, which could show for what types of fruit the Bombay market was a better one than the Poona market. Comparative net returns obtained from various places were unknown. Growers consign their produce usually only to Bombay or Poona; but even the country buyers or

wholesalers who sent fruit to a large number of distant markets had no definite information by which to regulate the distribution of supplies and worked largely by rule-of-thumb methods. Bulking societies which could collect such information and authoritatively advise its members, could do something to remedy this state of affairs. (ii) The other co-operative effort would best be in the direction of the establishment of co-operative markets in producing areas.

While we feel that orderly and highly organised marketing could not be brought about in this tract by purely voluntary co-operation, we are more hopeful of that end being attained by methods such as those adopted in the U. S. A. Federal Agricultural Marketing Act (1929) or the English Agricultural Marketing Act (1931). In a country of small holders, growing a variety of produce and handicapped in a number of other ways, voluntary co-operation can progress very slowly. It is, therefore, imperative in such a case, that special attempts be made by the State to bring into being and develop the co-operative marketing of agricultural produce. The central idea of the U. S. A. Act seems to be to strengthen and extend the co-operative movement. It sets up a Federal Farm Board, for giving aid to co-operative associations in setting up efficient marketing systems. This aid is to be given in the form of actual financial assistance in the form of loans, as well as information and advice. The English Agricultural Marketing Act, though not contemplating the grant of financial assistance, goes much further in other directions. Under it, growers of a commodity can formulate schemes for setting up Boards to control the marketing of that commodity. If such a scheme is approved by a certain proportion of growers and the Minister of Agriculture, a Board comes into existence according to law, vested with all the compulsory powers contemplated in the scheme. Such Boards can be trading boards doing the buying and selling of the entire supply of the commodity themselves, or regulating boards, or can combine partially both the regulatory and trading functions. We mention these Acts to indicate our estimate of future possibilities and the goal at which our present policy should aim. We realise, that such legislation is not immediately possible with us. For, some progress in standardisation of produce and organisation of producers, along lines we have indicated, must take place before such measures can usefully be contemplated.

(iii) *Miscellaneous* :—We have only a few points left to be dealt with. There are the allied questions of a statistical service and marketing intelligence. Even acreage statistics are not available for all fruits, and nothing is published about individual fruit acreages. Nothing is definitely known about fruit production as a whole or about acreage yields. The trade movements of fruit are not recorded and no estimates can, therefore, be made about the volume of trade or its directions. It was only the existence of an octroi duty that made available to us the figures of the volume of imports into Poona city, but no figures of this sort could be had for, say, Bombay. In short, so far as the fruit industry and trade are concerned, we are in utter statistical darkness. We believe it to be the duty of the Agricultural Department and the statistical departments of such bodies as the railways to relieve this darkness to, at least, some extent.

There are also no means available of getting information about market supplies and prices. We have commented on this at one place above. Some wholesalers may get price reports occasionally from the commission salesmen at various places, but this type of information is of a fragmentary character. As no information regarding movements of supplies and prices is continuously published, not even the wholesalers have any idea as to the relative strength or weakness of different markets. Under the circumstances, there cannot even be an attempt at any intelligent distribution of supplies. This is carried out in an entirely haphazard manner. And if this is the case with wholesalers, there is no wonder that the consignment of fruit by growers and the planting of fruit orchards also take place without any well-grounded calculations or well defined directions. In most other countries, farmers are excellently served in this matter, and in a large number of cases the state departments of agriculture afford this service. In England, the Ministry of Agriculture and Fisheries publishes a weekly 'Agricultural Market Report' which has been described as "the farmer's barometer of prices and market conditions". It is indispensable to all who buy and sell agricultural produce because it tells them what prices are being realised and supplies information which may afford some guidance as to the trend of future prices. It is able to do this because the Ministry of Agriculture has special market reporters in all the important centres

of the country who furnish regular reports on the nation's markets. From these and other sources the Ministry prepares this exceedingly useful paper. It is published on Fridays and every effort is made to dispatch it so as to reach farmers on Saturday morning." The Empire Marketing Board, following a recommendation of the Imperial Economic Committee in its third report, has established 'Weekly Fruit Intelligence Notes' since 1927. This publication concentrates its attention chiefly on the supply position of all fruits in the English markets and is intended to serve specially the needs of the Empire producers who ship their fruit to England. In South Africa, an even more prompt and widely distributed market intelligence service is in operation. Here, in the various markets, "prices are collected by the market master each morning and are sent by him to headquarters at Pretoria, where they are collected and telegraphed before 3 o'clock, each afternoon to post offices in the outlying districts. By this means, farmers, even in the most remote districts, are informed, during the course of the evening, of the prices that ruled at the more important markets in the morning."² The absence of standards will make it difficult with us to supply news about prices in a convenient form. The news about supplies should, however, not be difficult to obtain. We feel it necessary that the Agricultural Department should begin with posting a reporter in the Bombay Crawford and Byculla markets and publishing weekly a bulletin about supplies and trends of prices. The scope of the intelligence service could be increased, when this initial experiment becomes widely known and proves itself successful. The Poona Municipality ought to insist on the commission salesmen supplying the Market Inspector with information about wholesale prices. As it is the general average of prices, that has to be published, it would be best, if for this purpose a committee composed of the Market Inspector and two or three commission salesmen selected by their colleagues, is formed. This committee should decide upon and declare the daily or weekly prices. Even the retail prices published by the municipality every week, are not given enough publicity. The local newspapers should be induced to publish them promptly.

1. This is how the H. M. Stationery Office describes the 'Agricultural Market Report' in its advertisements.

2. Report on Markets and Fairs. Part I, P. 78.

Advertisement has by now become established as a necessity, even for the fruit industry. But no considerable effort in this direction will be possible unless the growers are organised and the produce standardised.

We have nowhere above, discussed the question of the prevention of glut and the disposal of surplus produce. In the absence of market supply and price information, it is difficult to determine when a condition of glut has become established. From the price statistics wholesale and retail, of fruit at Poona, collected by us, it did not appear that, at any time conditions bordering on glut became established. In a number of fruit, the season is long and the supply fairly well distributed through the season;¹ and though, of course, at the peak of the supply, prices are depressed, it is doubtful whether they approach levels where alternative uses i. e. uses other than eating fresh, could be contemplated. One experiment that we know of, attempted by the Agricultural Department, was the drying of figs.² Figs have a very short season, and during the latter half of May and the first half of June, the supply is usually over abundant. It is during this period and particularly in June that the prices are most depressed. Climatic conditions, especially in June, would, however, seem to be unsuitable for the drying of figs. The bulletin mentioned above does not discuss in any detail the economic aspect of the drying of figs in this district; and it cannot, therefore, be determined how far this is a helpful mode of disposal of the surplus produce. Country mangoes have also a short season; and if means could be devised of alternatively using a part of the supply, it would greatly help the grower. One way of attacking the mango surplus problem would be to breed varieties specially suited to preservation by canning, bottling etc. as has been done in fruits like peaches in other countries. Lemons during certain monsoon months also reach very low prices. Even in fruit in which the season is not short, there is the production of a large amount of inferior quality and cull fruit which is hardly marketable. In such cases disposal of the culls becomes an important problem. A variety of ways of doing this will have to be explored. In California, for example, experiments have been carried

1. Vide ante, Table IX, P. 33.

2. S. R. Gandhi :—Investigation in Fig culture and treatment. (Bulletin No 117 of 1924.)

out in even using oranges as feeding stuff for cattle. Preservation, the making of jams and jellies and such other uses must all be explored if the problem of culls is to be satisfactorily solved.

The two ways of dealing with surpluses are finding alternative uses or storing the produce to carry it over the period of glut. Cold storage for most Poona fruit may be found to be too costly. For apples and other fruit in U.S. A., a very much cheaper means of storage has been devised in outdoor cellars, preferably built in a hillside and fully covered with earth, except at one end where the entrance is located.¹ It may be, that this method of storage in our large centres of production may prove to be economic and useful to fruit growers in some areas in the Poona District.

(iv) *Recommendations* :—

(A) Cultural Improvement.

1. An investigation should be undertaken into the cultural aspect of the distribution of acreage under fruit and an attempt should be made to determine the climatic conditions etc. in the Deccan, suited to fruit growing in general and to individual fruits. (pp. 17, 18, 132, 134, 149-50; also 15, 19, 20, 24, 43, 45, 151).

2. All types of cultural problems bearing on the improvement of especially the quality of fruit, require the most urgent attention from the Agricultural Department. (pp. 18, 44, 45, 134, 149-50).

3. Acclimatisation of foreign sub-tropical fruit, the improvement of a number of inferior and ungrafted fruits and the establishment and standardisation of commercial varieties of all fruits are among the most important cultural problems. (pp. 18, 43, 132, 134, 150; also 45, 136, 151).

4. A study of the extent of the market demand and the character of consumers' preferences is necessary, previous to the standardisation of commercial varieties of fruit. (pp. 135-6, 151; also 36 to 41, 44-45, 149-50).

5. Investigations should be undertaken into the effect of thinning on the quality and yield of fruit trees and into the time best suited for picking the fruit with reference to near and distant markets. (pp. 136-7, 151; also 24-26, 34-35, 41-46).

(B) Grading and Packing.

6. Intensive propaganda should be carried out by the Agricultural Department and the growers' associations for inducing

1. *Some Economic Aspects of Fruit and Vegetable Storage* (1919). Univ. of Illinois, Cir. 227 (1918).

growers to give up the practice of topping and to pack each container with a uniform grade of fruit. (pp. 138-40, 152; also 141-142, 167).

7. The more prominent fruit growers should be induced to grade and pack their produce with care and to attempt to establish personal brands. (pp. 140, 141, 152).

8. The Agricultural Department should, in consultation with the growers, determine upon and declare the requirements of standard grades of all the more important fruit. (pp. 141, 142, 157; also 167).

9. The Agricultural Department should provide for the services of skilled graders in each important fruit growing tract, who would train growers to grade according to the standards laid down. (p. 154; 157; also 167).

10. With the extension of the practice of grading, the Department should provide for the services of shipping-point inspectors who would inspect graded packages and issue certificates in respect of them. (p. 154, 157).

11. It is necessary to devise a cheap and simple grading equipment suited to Indian conditions. (p. 157).

12. Considerable research into the materials used for preparing containers and the size and shape of containers most suited to different types of trade, will have to be conducted before it is possible to standardise them. (pp. 142, 145, 147-8; also 143, 144, 146).

13. Commission salesmen should be induced to handle standard packs at a reduced charge and the railways to return standard empties free of charge. (pp. 139, 141, 158).

14. The aim of all these efforts should be the ultimate passing of legislation on the lines of the English Agricultural Produce (Grading and Marking) Act. (pp. 141-2).

(C) Transport.

15. The railway parcels rates for small consignments are obviously much heavier than the average fruit and vegetable traffic can bear, and the railway authorities should be induced to lower them as soon as possible. (pp. 121, 159-60; also 119 to 121).

16. The accommodation afforded by railways, in the way of ventilated and shelved fruit vans, is still found insufficient and they should be asked to enlarge the supply of such vans. (pp. 116, 118).

17. Railway authorities should experiment with the possibilities of affording refrigeration facilities on a small scale for the transportation of fruit like figs. (pp. 116-117).

18. The railways should be requested to make efforts to minimise the damage due to mishandling by their servants. (pp. 117-118).

19. The railway risk rate should be offered in connection with the concession or special rates and the difference between the railway risk and the owner's risk rates should be considerably reduced all round. (pp. 124, 159, 160; also 122 to 124).

20. The attention of the District Local Board should be invited to the question of the improvement of the link roads connecting the more important villages with the main roads. (p. 124).

(D) **Pre-harvest Contractors.**

21. Pre-harvest contractors and country buyers should be induced to interest themselves in the movement towards standardization of grading and packing. (pp. 155-56; also 47, 48, 54, 55).

22. It is desirable that in entering into a contract with the pre-harvest contractors, growers should undertake all the agricultural operations and leave only the watching and picking to be done by the contractors. (pp. 159; also 51, 53).

23. A standard form of the agreement, to be entered into by the growers and pre-harvest contractors, should be drawn up by the District Co-operative Institute in consultation with the Agricultural Department. (pp. 54, 159).

(E) **Commission Salesmen.**

24. The Market Committee should regulate the dealings of commission salesmen specially with a view to abolish secret auctions and prevent them from combining their business with wholesale or retail dealings in fruit. The market committee should also determine the scale of trade allowances to be received by salesmen and others and prevent all improper exactions. (pp. 163-64; also 60-61, 67 to 69, 73, 74, 80, 81, 84 to 87, 166).

25. Provincial legislation on the model of the English Horticultural Produce (Sales on Commission) Act should be immediately undertaken by Government. (pp. 68-69, 163-65; also 81, 84, to 86, 87, 157, 163, 165).

(F) Growers' Organisations.

26. Local associations of fruit growers should be established in each important fruit-growing area. (pp. 152; also 166).

27. Attempts should be made to form co-operative bulking and dispatching societies of fruit and vegetable growers, wherever the conditions are favourable for their formation. (pp. 153-155, 160, 170).

28. Attempts should be made to establish co-operative fruit and vegetable auction marts in all the important fruit producing areas. (pp. 54, 55, 160-161, 171).

29. Efforts of the co-operative workers and the Agricultural Department should be directed towards creating conditions favourable to ultimately undertaking legislation on the model of the English Agricultural Marketing Act. (p. 171).

(G) City Markets.

30. Each important municipality should set up a market committee to deal with the management of the fruit and vegetable markets within its area. (pp. 98, 163, 165).

31. The constitution of the market committee should provide for the co-option of a certain number of non-councillors to represent the interests of growers. (pp. 98, 163-64; also 153).

32. The market committee should specially regulate the dealings of commission salesmen and others, should enforce the use of proper weights and measures and generally exercise powers similar to those given to market committees set up under the Bombay Cotton Markets Act. (pp. 98, 162, 165, 168; also 80, 81, 97, 99, 159).

33. One section of the municipal market should be reserved for the use of growers only. (pp. 96-97, 168).

(H) Poona Reay Market.

34. In the Poona Reay Market the wholesale dealers' stalls should be paved and covered ; and the section in the building containing fruit stalls should be provided with glass tiles in the roofing. (p. 94).

35. The approaches to the market should be cleared and the movement of traffic on the market roads be properly controlled. (p. 91, 95).

36. The market should be thoroughly washed at least once a week. (p. 94).

37. Increased area should be provided for the parking of bullock-carts and suitable conveniences be offered in the parking ground. (p. 95).

38. The market byelaws may, if necessary, be revised and their proper administration should be enforced. (pp. 92, 97 to 99; also 163)

39. Only licensed porters should be allowed to work within the market precincts. (pp. 94-5; also 164).

(I) **Statistics and Market Intelligence.**

40. Statistics of acreage under fruit should be separated from those of vegetables in the annual returns. (pp. 172; also 7).

41. Attempts should be made by the Agricultural Department to collect data from time to time regarding the total production of fruits and their average yield per acre. (pp. 172; also 24-26).

42. The railway authorities should be induced to maintain statistics regarding the movement of fruit on railways and to either publish them or make them available to growers and traders. (pp. 6, 172; also 26, 32 to 36, 41, 44).

43. The Agricultural Department should begin the organization of a market intelligence service, by arranging for the publication of a weekly bulletin regarding the supplies and prices of fruits and perhaps other food products, in the Bombay City markets. (pp. 69-70, 140, 172, 173; also 3, 26, 36, 44).

(J) **Miscellaneous.**

44. The Crawford Market commission salesmen should be induced to levy a percentage, instead of a flat rate commission, on fruit consigned from the Poona District. (pp. 82, 103, 105; also 63-64).

45. The Poona municipality should refund the whole amount of the octroi recovered from fruit *in transit*, whatever the size of the consignment. (pp. 133; also 32).

46. Attention of growers should be drawn to the increased possibilities of roadside marketing of fruit. (pp. 77, 168-69; also 78, 79, 168).

47. Research should be undertaken into the various alternative uses to which surplus fruit supplies can be economically put. (pp. 174-175).

48. Research should be undertaken into the conditions under which Poona fruit keeps best in cold storage. It is also necessary that the possibilities of adapting cheaper methods of storage such as outdoor cellars, to Indian conditions, be explored. (pp. 95-96, 175; also 83).

Select Bibliography.

Ministry of Agriculture and Fisheries, England :—

(1) The Interim Report of the Departmental Committee on Distribution and Prices of Agricultural Produce (1923)—(Linlithgow Committee).

(2) The Final Report of the above (1924).

(3) Report of the Committee on Stabilization of Agricultural Prices. Eco. Series, No. 2 (1925).

(4) Co-operative Purchase of Agricultural Requisites. Eco. Series No. 5 (1925).

(5) R. B. Forrester :—Report on Large Scale Co-operative Marketing in the U. S. A. Eco. Series, No. 4 (1925).

(6) Co-operative Marketing of Agricultural Produce in England and Wales Eco. Series No. 1 (1926).

✓(7) Report on Fruit Marketing in England and Wales Eco. Series No. 15 (1927).

(8) Reports on Markets and Fairs in England and Wales, Parts I-VII, (1927-1930).

✓(9) Report on the Preparation of Fruit for Market. Part I (1928), and Part II (1931)

*Ministry of Food :—*Fourth, Fifth and Final Reports of the Departmental Committee on the Wholesale Food markets of London (1921).

*Imperial Economic Committee :—*Report on Marketing and Preparing for Market of Foodstuffs (produced in overseas parts of the Empire). Third Report-Fruit (1926).

✓*Empire Marketing Board :—*Publications on storage, shipment, and supplies of fruit (No. 10, 15, 30, 36, 38, 45, 46, 47, 49, 60, 65, 68).

The English Marketing Acts :—

- (1) Horticultural Produce (Sales on Commission) Act (1926).
- (2) Agricultural Produce (Grading and Marking) Acts (1928) and (1931).
- (3) The Agricultural Marketing Act (1931).

Ministry of Agriculture, Canada :—

- ✓(1) Co-operation And Fruit Growing. Bulletin No. 38 (Ottawa, 1913).
- (2) The Fruit Act and Regulations (Ottawa, 1929).
- ✓(3) Report of the Ontario Fruit and Vegetable Marketing Commission (Toronto, 1931).

Department of Agriculture, Union of South Africa :—

- (1) Reports on Co-operative Marketing and Reviews of Co-operative Citrus Companies.

United States Department of Agriculture :—

- (1) Expense Factors in City Distribution of Perishables. Bulletin No. 1411 (1926).
- (2) Containers Used in Shipping Fruits and Vegetables. Farmer's Bulletin No. 1579 (1929).
- (3) Marketing Farm Produce by Parcel Post. Farmer's Bulletin, No. 1551 (1930).
- (4) Farmer's Bulletins on the Preparation of Fruit and Vegetables for the Markets.

*State of California :—*Fruit And Vegetable Standardization Law (1919).

California University [Agri. Expt. Station, Berkeley] :—

- (1) Fundamental Principles of Co-operation in Agriculture.—By G. H. Powell, General Manager, California Fruit Growers' Exchange. Circular No. 222 (1926)

(2) Possibilities and Limitations of Co-operative Marketing Circular No. 298 (1925)

(3) Some Economic Factors Involved in the Pooling of Fruits. Bulletin No. 432 (1927)

(4) Economic Problems of California Agriculture. Bulletin No. 504 (1930)

✓(5) Fruit Markets in Eastern Asia. Bulletin No. 493 (1930)

(6) Marketing California Apples. Bulletin No. 501 (1930)

(7) A Study of the Shipment of Fresh Fruits and Vegetables to the Far East. Bulletin No. 497 (1930)

(8) Various circulars of the Agr. Expt. Station of the university on 'Harvesting and Handling of Fruits for Eastern Shipment'.

Cornell University [Agri. Expt. Station, Ithaca, New York.] :—

(1) Apple Varieties—Prices, Yields and Acreages. Bulletin 495 (1929)

(2) A Survey of some Public Produce Markets in Upstate New York. By F. P. Weaver, Bulletin 525 (1931)

Florida University [Agri. Expt. Sta., Gainesville] :—

Grading, Packing and Stowing Florida Produce. Bulletin 254 (1932)

✓*Illinois University* [Agri. Expt. Station, Urbana] :—

(1) Some Economic Aspects of Fruit and Vegetable Storage Circular 237 (1918)

(2) Is Co-operative Marketing of Horticultural Product Applicable to Illinois Conditions. Cir. No. 237 (1919)

(3) Co-operative Marketing of Horticultural Products. Circular No. 244 (1920).

(4) Marketing of Calhoun County Apples. Bulletin 312 (1924)

Michigan State College of Agriculture [East Lansing]:—

- (1) Roadside Marketing in Michigan. Bulletin No. 185.
- (2) Trends in Purchasing Power and Costs of Production of Fruits. Technical Bulletin No. 120 (1931)

New Jersey [Agri. Expt. Sta., New Brunswick]:—

The Motor Truck as a Carrier of Fruits and Vegetables to Greater New York. Bulletin No. 503 (1930)

The Report of the Royal Commission on Agriculture in India (1928) [Linlithgow Commission.]

Bombay Department of Agriculture:—

- (1) R. B., P. C. Patil :—The Crops of the Bombay Presidency (Bulletin No. 109 of 1921).
- (2) S. R. Gandhi:—Investigations in Fig Culture and Treatment (Bulletin No. 117 of 1924).
- ✓(3) Report of the Mango Marketing Committee (1925).
- ✓(4) G. S. Cheema:—Marketing of Fruits and Vegetables in Bombay (1932).
- (5) Cheema and Dani:—Report on the Export of Mango to Europe in 1932 (Bulletin No. 170 of 1932).
- ✓A. B. Adams :—Marketing Perishable Farm Products. (1916).
- J. E. Boyle:—Marketing of Agricultural Products (1925).
- Howard :—Crop Production in India (1924).
- J. G. Smith:—Organised Produce Markets (1925).
- F. W. Waugh :—Quality as a Determinant of Vegetable Prices. (Columbia University, 1929).
- ✓Gazetteer of the Bombay Presidency, Vol. XVIII, Parts. II & III.
- Statistical Atlas of the Bombay Presidency (1888 and 1925).

A Note on the Improvement of Marketing Mangoes in the Konkan. Poona Agri. College Quarterly (July, 1931).

✓ P. D. Nair:—Marketing of Nagpur Oranges. Agriculture and Livestock in India (Nov. 1932).

✓ K. C. Naik:—A study of Orange Marketing in England with special reference to the Possibilities of Marketing Punjab Oranges. Agriculture and Livestock in India (March 1932).
